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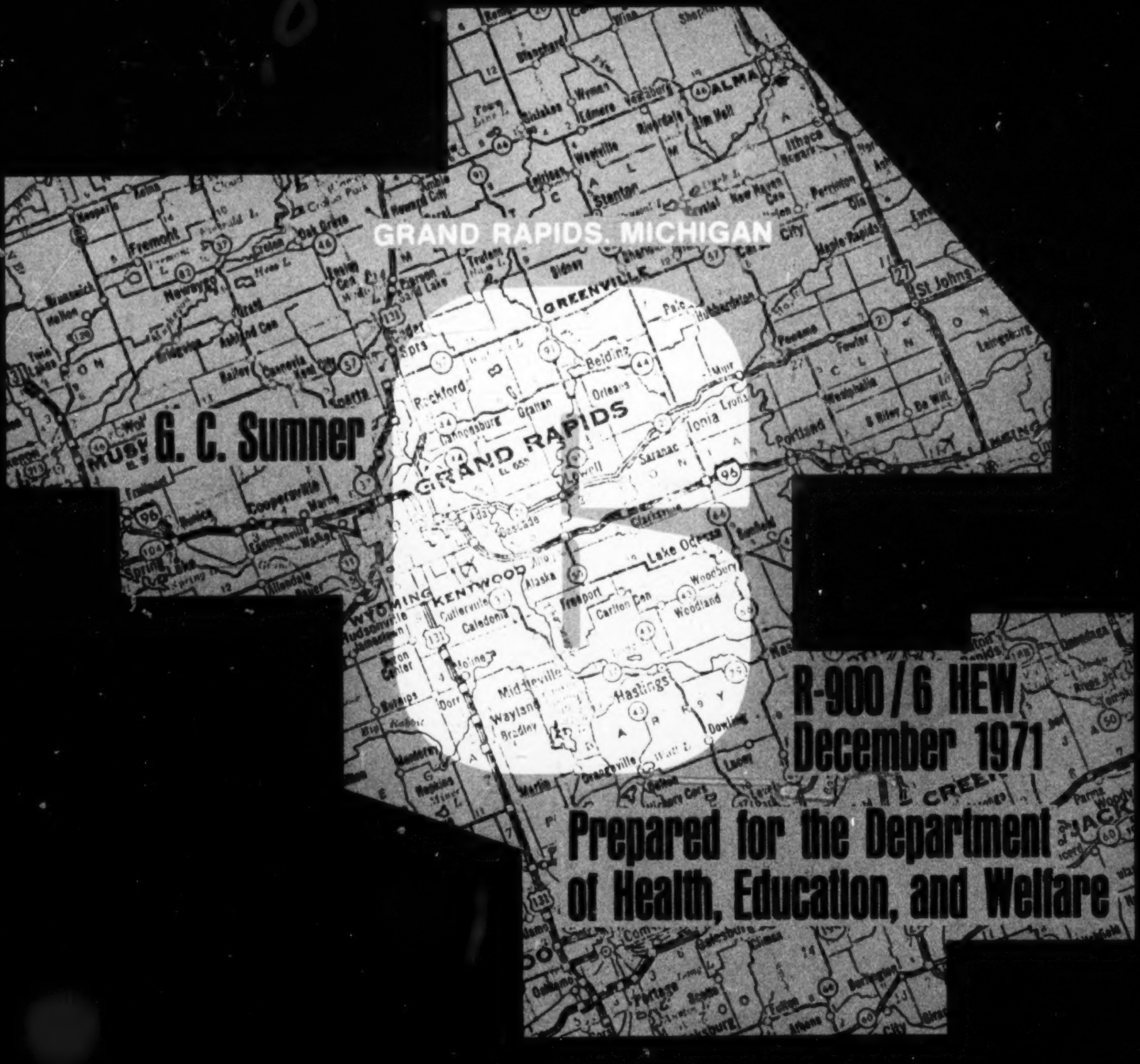
ABSTRACT During the 1970-71 school year, the Grand Rapids, Michigan, School District had performance contracts for reading and math instruction with Alpha Learning Systems, Inc. (Alpha), Combined Motivation Education System, Inc. (CMES), and Westinghouse Learning Corporation (WLC). The programs of all three contractors featured contingency management and individualized instruction, and all used commercially available materials and equipment. The WLC program accomodated 340 low achievers in two inner city schools in grades 1-6. The CMES program accomodated around 550 low-achieving pupils in an inner city middle school, grades 6-9. Both of these programs had rooms furnished much more comfortably than regular classrooms. The Alpha program accomodated 300 low achievers in a middle school in grades 7-9 and 300 low achievers in two elementary schools in grades 1-3. All schools were in the inner city. Average achievement gains in the WLC program for pupils who attended at least 150 days were 0.67 in reading and 0.58 in math. The average gains in the CMES program for pupils who attended at least 150 days were 1.2 in reading and 1.0 in math. Achievement data for the Alpha program were not available at the time of this publication. The Grand Rapids experience underscores the value of performance contracting as an agent for introducing instructional innovations. For related documents, see ED 056 247, 248, 249, 250, and 251. (Author/CK)

CASE STUDIES IN EDUCATIONAL PERFORMANCE CONTRACTING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G. C. Sumner

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CASE STUDIES IN EDUCATIONAL PERFORMANCE CONTRACTING

G. C. Sumner

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GRAND RAPIDS, MICHIGAN

Prepared for the Department of Health, Education, and Welfare

AA 000 743

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PREFACE

This Report is a product of Rand's study of performance contracting in education. The study is sponsored by the Assistant Secretary for Planning and Evaluation, U.S. Department of Health, Education and Welfare, under Contract No. HEW-OS-70-156.

Case Studies in Educational Performance Contracting comprises six volumes. Each is a self-contained study; together they provide a multifaceted view of performance contracting. The six volumes are:

1. R-900/1-HEW, *Conclusions and Implications,* by P. Carpenter and G. R. Hall
2. R-900/2-HEW, *Norfolk, Virginia,* by P. Carpenter
3. R-900/3-HEW, *Texarkana, Arkansas and Liberty-Eylau, Texas,* by P. Carpenter, A. W. Chalfant, and G. R. Hall
4. R-900/4-HEW, *Gary, Indiana,* by G. R. Hall and M. L. Rapp
5. R-900/5-HEW, *Gilroy, California,* by M. L. Rapp and G. R. Hall
6. R-900/6-HEW, *Grand Rapids, Michigan,* by G. C. Sumner

This study is the second of three Rand Reports on the subject. The first Report was J. P. Stucker and G. R. Hall, *The Performance Contracting Concept in Education,* The Rand Corporation, R-699/1-HEW, May 1971. The third Report will be a performance contracting guide intended for use by educational officials.

SUMMARY

Grand Rapids is a city of 200,000 in southwestern Michigan. Total pupil enrollment in the Grand Rapids school district is around 41,000. During the 1970-71 school year, the district had performance contracts for reading and math instruction with three commercial firms: Alpha Learning Systems, Inc. (Alpha), Combined Motivation Education System, Inc. (CMES), and Westinghouse Learning Corporation (WLC).

The CMES AND WLC contracts were independently obtained on sole-source bases. The Alpha program was part of the Office of Economic Opportunity experiment in performance contracting. The programs of all three contractors featured contingency management and individualized instruction, and all used commercially available materials and equipment.

The WLC program initially accommodated 220 low achievers in two inner-city elementary schools, grades 1-6. Modifications were made after the first semester to accommodate all but the special-education pupils, increasing the WLC program enrollment to about 340. The contract fee was $149.50 per achievement-year gain per student as measured by standardized achievement testing. There was no payment for any student who did not gain at least one year. WLC operated a moderately hardware-oriented program in rooms that were furnished much more comfortably than regular classrooms.

The CMES program accommodated around 550 low-achieving pupils (including special-education pupils) in an inner-city middle school, grades 6-9. The contract fee was $60 per achievement-year gain per student. The CMES program was highly hardware-oriented, and again the rooms were furnished much more comfortably than regular classrooms.

The Alpha program accommodated 300 low achievers in a middle school in grades 7-9, and 300 low achievers in two elementary schools in grades 1-3. All schools were in the inner city. Three-fourths of the contract fee was determined on a sliding scale, varying from $60 to $150 per achievement-year gain per student. The rest of the payment was based on satisfactory performance on interim mastery tests. The Alpha program involved no special furnishings or instructional equipment.

At the end of the year, it was necessary to negotiate payment on both the WLC and the CMES contracts because of excessive absences, program changes, or other conditions not anticipated in the contracts.

Average achievement gains in the WLC program *for pupils who attended at least 150 days* were 0.67 in reading and 0.58 in math (as measured by the Metropolitan Achievement Test). In the CMES program, average achievement gains *for pupils who attended at least 150 days* were 1.2 in reading and 1.0 in math (as measured by the Educational Development Series published by Scholastic Testing Service). Achievement data for the Alpha program were not available at the time of this publication.

Most district personnel involved with the programs were favorably impressed, and did not think it fair to judge effectiveness on the basis of first-year results. The district decided to hold final judgment in abeyance for a year. Accordingly, follow-on contracts were awarded for all three programs. The performance payment machinery was modified for the CMES and Alpha contracts, and was dropped altogether from a contract with Learning Unlimited (headed by a former WLC official, Learning Unlimited assumed WLC's instruction management activities at the end of the 1970-71 school year). Alpha and Learning Unlimited were also awarded contracts for programs in other Grand Rapids schools.

The Grand Rapids experience underscores the value of performance contracting as an agent for introducing instructional innovations. It also indicates that the performance contract is a useful device to guarantee active contractor participation in the program modifications that are generally required to adapt to the particular needs of a district.

ACKNOWLEDGMENTS

A large number of Grand Rapids citizens lent aid in gathering the information contained in this Report. Especially helpful were Mr. Emery Freeman, Dr. Elmer Vruggink, and Mrs. Joan Webster, all employees of Grand Rapids Schools.

Assistance in reviewing the draft was generously provided by G. H. Fisher, G. R. Hall, and M. L. Rapp, all of The Rand Corporation.

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I. INTRODUCTION

With three performance contracting programs for reading and mathematics, Grand Rapids was in a unique position among school districts during the 1970-71 school year. No other school district had so many reading and math programs under way.[1] The three commercial contractors, Alpha Learning Systems, Inc. (Alpha), Combined Motivation Education Systems, Inc. (CMES), and Westinghouse Learning Corporation (WLC) use somewhat different educational systems, but the Grand Rapids School District (GRS) decided that the programs of all three have sufficient benefits to warrant continuation with modifications during the 1971-72 school year. Significantly, there was less utilization of performance payment in the follow-on contracts.

The opportunity to study the programs of three different contractors within a single school district, the midyear decisions that had to be made, and the outcomes of the programs make Grand Rapids an extremely instructive case study of performance contracting in education. This Report describes the three programs and how they evolved during the 1970-71 school year. It also discusses the achievement results and some of the other program outcomes.[2]

---

[1] Dallas, Texas also had three performance contracts during 1970-71, but not all were for reading and mathematics.

[2] The report concentrates on the WLC and CMES programs because the Alpha program is part of the Office of Economic Opportunity performance contracting experiment and will receive attention in OEO evaluation reports.

The Report makes no attempt to identify the "best" program. The achievement patterns, participant characteristics, management practices, program goals, and resource consumption patterns are so multidimensional and diverse among the three programs that any ranking must depend on the subjective assessment of the beholder. In the Grand Rapids case, GRS sensibly chose to hold program comparisons in abeyance for a year until more data and more information on the post-shakedown period would be available. This Report presents information that GRS may find relevant for comparisons and decisionmaking evaluations. Nonetheless, since there are no simple common denominators that can combine all input and output aspects of a program, normative comparisons among programs are subjective and should properly be made by school officials, not researchers.

This Report has six major sections. Section II briefly describes Grand Rapids and its school system. Sections III, IV, and V, respectively, describe the district's experiences with CMES, WLC, and Alpha. Section VI editorializes on implications drawn from the Grand Rapids experience with performance contracting. The appendixes reproduce the pertinent contracts.

II. GRAND RAPIDS PUBLIC SCHOOLS

Grand Rapids straddles the Grand River in southwestern Michigan (Fig. 1). The city's population is 200,000, and there are half a million people in the metropolitan area. The city has long been known for furniture manufacturing, although most of that industry has moved to the Carolinas. The furniture manufacturers still left in Grand Rapids include the American Seating Company, the largest manufacturer of transportation seats, football stadium seats, and the like. There are three General Motors plants in Grand Rapids, and a variety of diversified manufacturing. The area around Grand Rapids is agricultural; it has a well-diversified and prosperous economy. The downtown area of the city is old and shows the marks of a number of buildings having been torn down for parking lots; there has been considerable urban renewal.

Grand Rapids housing is almost completely segregated. The black community (about 20 percent of the population) is bounded by the river on the west and the downtown area to the north. Whites, mostly of Polish and Dutch extraction, live west of the river, north of downtown, and in the suburbs.

About 70 percent of the students in Grand Rapids attend public schools. The other 30 percent are split fairly evenly between the Roman Catholic schools and the Christian schools (the parochial schools of the Christian Reformed Church). The latter church embodies a theologically more conservative wing that also maintains a small parochial school system. There are four public high schools and four nonpub-

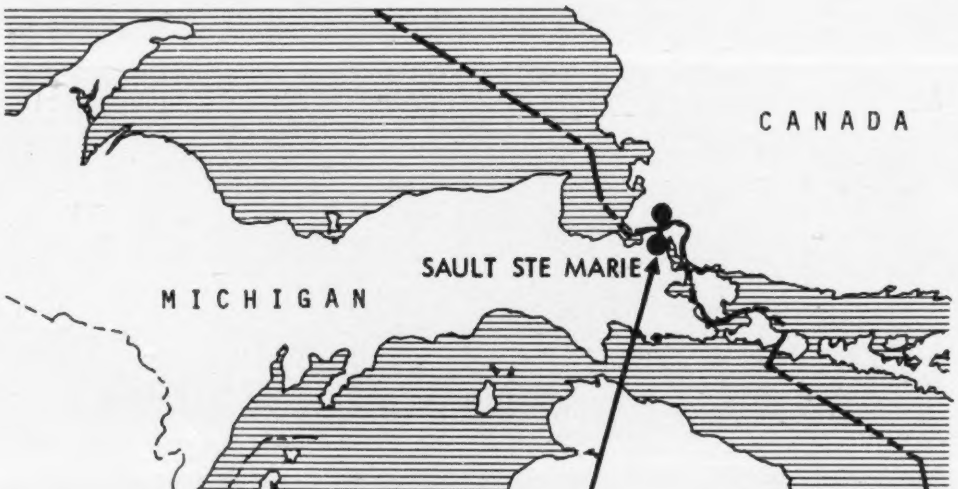
CANADA
SAULT STE MARIE
MICHIGAN
279
LAKE HURON
CADILLAC
98
LAKE MICHIGAN
30
GRAND RAPIDS
65
LANSING
82
WIS.
ILL.
172
CHICAGO
DETROIT
MICHIGAN
INDIANA
OHIO

Fig. 1—Grand Rapids, Michigan

lic high schools; two of the latter are Catholic and two are Christian Reformed. The local Calvin College is also an offspring of the Christian Reformed Church.

DISTRICT SCHOOLS

The Grand Rapids School District is unified, and includes a junior college. Total enrollment is 41,000. An overall student profile is provided in Table 1.

The school system is almost completely segregated. A few years ago, the NAACP protested the master plan of the School Board on the basis that it perpetuated this segregation, and demanded that many of the schools in the black neighborhood be closed down. More recently, after the plan had been modified, the blacks protested because schools were not being built in their neighborhood. In December 1970, the NAACP filed suit against the district, charging segregation at South Middle School and ten elementary schools.

Some integration has been achieved through busing black students to white schools. This has led to occasional racial disturbances. For example, Union High School was closed down for seven days in May 1971 because of alleged differential treatment of blacks.

Busing has aroused the predictable community furor, and was apparently significant in securing the election of a faction to the School Board that is opposed to busing. In an opinion survey administered by the district in January 1971, respondents voted the busing program as the biggest defect in the school system.

A less controversial busing arrangement takes place in connection with the district's Educational Park program. At Central High School and the adjacent junior college, a number of specialized classes are taught for which any high school student in the city can register. A fleet of buses is maintained to transport children from their own high schools to Educational Park. In 1970-71, about 2000 pupils in Educational Park enrolled for about 3000 student-units. Educational Park increases the number of subject offerings available in the schools; it makes specialized staffing easier, and it has brought about some integration.

The School Board has seen considerable turnover in recent years. It is a nine-man board, with three members elected for three-year terms each year. From 1950 to 1962, there were only five changes on the Board. From 1962 through the current year there have been 18 changes, primarily in reaction to the master plan in general and the busing program in particular. During the last year, the Board tended to split

Table 1

CHARACTERISTICS OF GRAND RAPIDS STUDENTS

(In percentage)

Racial ethnic[a]	
White	84%
Black	14
Spanish surname	1
Other	1
Student turnover[b]	
Including changes among schools	
1969-70	18
1970-71	13
To nondistrict schools only	
1969-70	9
1970-71	6
Low-income students	about 25%
Sex (September 1970)	
Boys	52
Girls	48

SOURCE: Taken from the 1970 application for Title I funds.

[a] All children living in the district, including all those attending nonpublic schools (about 30 percent).

[b] Calculated as the ratio of students leaving during the school year to students enrolled in September, expressed as a percentage.

rather consistently on certain issues. Four seats were at stake in the hotly contested election of August 1971, and the thrust of much of the campaign was a drive by some campaigners to unseat the remaining board members who voted for the original master plan.

THE MICHIGAN STATE ASSESSMENT OF GRAND RAPIDS SCHOOLS

The State of Michigan's assessment of economic status and academic achievement provides rough comparative information that is useful in forming a profile of the district. The Assessment is administered yearly to Michigan school districts by the Michigan Department of Education. Grand Rapids' ratings on the 1970 Assessment are summarized in Table 2. It should be noted that these data have serious drawbacks.

Part of the Assessment is a test designed by Educational Testing Service for fourth- and seventh-graders. Whether a school receives Michigan Section 3 funds (for aides, etc.) depends on how poorly the students score on this test (25 points) and how poorly they rate on an SES (socioeconomic status) questionnaire they are asked to fill out (10 points). GRS has discovered a very serious response-bias problem with the questionnaire: it seems the students respond according to their aspirations rather than actual status (e.g., how many color TVs does your family own?). For example, one of the poorest schools in the district received 25 achievement points, but none of the 10 SES points. Furthermore, some schools elsewhere in the state refused to administer the questionnaire, only to find out later that it would be part of the basis for funding. At a special session in September, 1970, the legislature voted to guarantee that any school receiving Section 3 funds in 1969-70 would be funded in 1970-71 at one-half rate at least. Several districts in the state boycotted the assessment in 1970-71, preparing the way for a confrontation on the matter. Consequently, the data should be regarded as only roughly indicative of true socioeconomic and achievement levels.

DISTRICT FINANCES

In the 1968-69 school year, the dollars-per-student factors for the district were $675 for secondary, $549 for elementary, $1353 for special education, $650 for junior

Table 2

MICHIGAN STATE ASSESSMENT OF GRAND RAPIDS SCHOOLS, FOURTH AND SEVENTH GRADES, 1970

(Percentile ratings)[a]

Item	Michigan Norms		Michigan Core-Cities Norms	
	4th	7th	4th	7th
Socioeconomic status	65	80	65	70
Attitudes and aspirations				
Importance of school achievement	75	80	50	60
Self-perception	70	65	65	70
Attitude toward school	10	5	40	30
School human resources				
Pupil/teacher ratio	70	70	30	30
Average years of teaching experience	30	25	5	25
Teachers with Master's degree or above (%)	75	75	10	15
Average teacher salary	90	85	25	25
School financial resources				
State equalized valuation per pupil	90	90	75	75
Local revenue per pupil	90	90	50	50
State school aid per pupil	30	30	55	55
K-12 instructional expense per pupil	90	90	25	25
Total current operating expense per pupil	90	90	20	20
Achievement				
Vocabulary	10	10	40	50
Reading	10	15	40	60
English expression	10	15	35	55
Mathematics	15	25	50	70
Basic skills composite achievement	10	15	40	55

[a] The percentiles indicate Grand Rapids' relative placement with respect to other Michigan school districts. In the first row, for example, 80 percent of all Michigan school districts rank below Grand Rapids with respect to the SES of seventh-graders, but only 70 percent of Michigan core-city school districts rank lower.

college, and $644 overall. The 1970-71 total operating budget was around $33 million. A comparative budget summary is provided in Table 3. A little over half the district's revenue comes from local source, 40 percent from the state, and most of the rest from tuition from students who live outside the district.

The millage rate (i.e., the property tax rate per $1000 assessed valuation) for Grand Rapids is quite low compared to other Michigan cities. In part, this reflects the substantial number of pupils in private schools. Perhaps it also reflects fiscal conservatism. In any event, millage elections have become a periodic crisis point in the district, and a large part of the district's public relations efforts are devoted to this question. In the spring of 1970, a millage election was lost and termination notices were sent out to 600 teachers. A new election was held and the higher millage rate was passed. The 500 teachers who were still available were rehired.

The County Allocation Board gives the schools 10.1 mills out of the 15 mills that is the maximum lawful levy on the populace (without elections). In addition, there are 14 mills that have been authorized by elections. The total 24.1 mills represents $17.8 million of operating funds.

The district asked for three additional mills in the April 1971 election to cover increases in salaries and operating costs that were expected in the 1971-72 school year. The district anticipated enrollment increases as a result of the denial of state aid to nonpublic schools.[3]

The history of millage elections is summarized in Table 4.

THE SCHOOL OPINION SURVEY

Despite the district's very broad range of curricula, special programs, and community involvement activities, the administration is sensitive to criticism from the community that the district is unprogressive.

In order to obtain a clearer picture of the citizens' viewpoint, the district hired a private firm to conduct the School Opinion Survey in January 1970. Five hundred

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[3] In November 1970's state election, Michigan voters passed Proposal C, a constitutional amendment that denies state aid to nonpublic schools. This overturned the legislature's plan to pay half the salaries of teachers of nonreligion classes in nonpublic schools (two new nonpublic schools had opened in the fall of 1970 in Grand Rapids in anticipation of this subsidy). The State Superintendent of Schools set the cutoff date for direct state aid at December 18. All of this was expected to have considerable impact in Grand Rapids, where 30 percent of the children go to nonpublic schools.

Table 3

SUMMARY OF GRS FINAL OPERATING BUDGET FOR 1970-1971

Item	Actual 1968-69	Budgeted 1969-70	Final Budget 1970-71
Revenue			
Revenue from local sources	$13,864,847.69	$14,120,500	$17,830,981
Tuition	913,961.75	1,038,450	1,332,130
Interest	483,851.68	450,000	600,000
Net revenue: revolving funds	8,056.68		
Miscellaneous	97,681.10	82,000	180,083
Revenue: state sources	10,340,804.98	11,063,847	12,189,456
Revenue: state redist. Fed. funds	122,820.37	100,000	100,000
Revenue: Federal sources	73,949.89	109,500	29,230
Incoming transfer accounts	475,338.59	475,000	307,000
Balance from previous years		985,298	
Total Revenue	$26,381,312.73	$28,424,595	$32,568,880
Expenditures			
Instruction	$18,841,404.91	$21,569,389	$24,824,409
Administration	700,115.62	773,848	871,851
Attendance	147,524.94	176,447	232,104
Health services	24,763.05	28,285	32,689
Pupil transportation	409,304.67	372,790	475,795
Operation	2,635,817.92	2,861,381	3,243,051
Maintenance	1,247,788.69	1,347,848	1,474,667
Fixed charges	501,734.13	550,050	701,194
Capital outlay	481,116.91	445,245	307,548
Community services	221,354.52	210,000	181,550
Student services	46,654.19	49,062	35,260
Outgoing transfer accounts	46,685.44	40,250	38,762
Contingency			150,000
Total Expenditures	$25,304,264.99	$28,424,595	$32,568,880
Surplus for Year	$ 1,077,047.74		

Table 4

GRS HISTORY OF MILLAGE ELECTIONS

Date	Result	Amount (mills)	Funding (No. yr)	Yes	No	Yes (%)
4-6-64	Defeated	4	--	18,137	25,247	41.8
9-1-64	Passed	3	--	27,705	21,011	56.9
4-4-66	Passed	3	5[a]	12,826	11,672	52.3
6-5-67	Defeated	5	1[b]	9,902	12,858	43.5
11-21-67	Passed	7	2[c]	22,161	22,106	50.0
2-16-70	Defeated	12	1[d]	8,882	24,966	26.2
6-8-70	Passed	11	1[e]	23,934	18,915	55.9
4-17-71	Passed	17	3[f]	21,487	19,807	52.0

[a] 1966-67 through 1970-71.

[b] 1967-68.

[c] 1968-69 through 1969-70.

[d] 1970-71.

[e] 1970-71.

[f] 1971-72 through 1973-74.

respondents drawn at random from voting precinct lists were contacted by telephone, and another 362 persons volunteered responses to a newspaper solicitation. On a scale from poor to excellent, the most frequent rating given the school system in the telephone survey was fair. The big grievance was busing, and the service characterized as most needing improvement was vocational education. Most respondents said they would vote for the current millage level, but a small majority would not vote for an increase. Although questions dealing with grievances and needed improvements were open-ended, there was no reported specific reference to performance contracting. A partial tally of the telephone survey results is presented in Table 5. The results of the newspaper survey were substantially the same, except that the big issues raised were student discipline and building utilization. Also, the attitudes toward school finance were more negative.

Table 5

RESULTS OF SCHOOL OPINION SURVEY, JANUARY 1971

Item	*Response (%)*
The Grand Rapids school system is:	
excellent	7
above average	25
fair	44
poor	9
don't know	16
Major areas needing improvement:	
busing (eliminate)	13
teacher quality	8
student discipline	7
spending (reduce)	6
facilities (more)	5
etc.	
Services needing improvement:	
vocational education	31
utilization of buildings	18
tutoring	11
senior citizens program	10
etc.	
Millage elections should be held:	
each year	20
every 3 years	40
every 5 years	10
makes no difference	25
don't know	5
Would vote today for present millage	
yes	67
no	20
undecided	13
Would vote today for an increase if needed:	
yes	39
no	43
undecided	18

NOTE: The survey was conducted by a private firm.

GRAND RAPIDS' INVOLVEMENT IN PERFORMANCE CONTRACTING

Grand Rapids schools were not inexperienced with industry-supplied instructional programs. Behavioral Research Laboratories had supplied the Project Read program to several schools on an unguaranteed basis before 1970-71, and the district had been pleased with the materials. GRS also felt able to evaluate the Texarkana experience from an informed position.

In the spring of 1970 an executive of the local Dyer-Ives Foundation met a WLC officer in New York, and became acquainted with their learning center concept. The executive passed the word on to district officials, suggesting that they visit the WLC commercial learning center in Albuquerque. Two members of the superintendent's staff and one school principal visited the center in April and made positive recommendations to the Board of Education, and the Board acted in August to contract for learning centers in Franklin and Lexington schools.

Over the summer, Dr. Walter Thomas, an executive of CMES who formerly lived in Grand Rapids, successfully solicited a contract from the district for South Middle School.

Meanwhile, Grand Rapids was selected as one of the eighteen school districts to participate in OEO's massive experiment in performance contracting; Alpha was assigned as the subcontractor for programs in West Middle, Alexander, and Hall Schools.

In September, Grand Rapids accordingly found itself in the unique position of housing three performance contracts in academic subjects.

The WLC and CMES contracts were let on a sole-source basis, while Alpha won its position in a competition-bid process. Other educational firms were quick to criticize the sole-source aspect of the non-OEO contracts.

District Administration of the Programs

Three successive GRS chief executives played key roles in the performance contracts for 1970-71. Dr. Norman Weinheimer was Superintendent during the conceptual and initial negotiation phases. When Weinheimer left in August 1970 to become Executive Director of the Michigan School Board Association, Dr. Robert Muth became Acting Superintendent. Muth was in command during final contract negotiations and the first three months of operation. In December, Mr. Philip Runkle took over as Superintendent, and saw the year to completion. The terms of the three men correspond roughly with the negotiation, startup, and contract-completion phases of the programs.

Administration of the WLC and CMES contracts was the responsibility of Dr. Elmer Vruggink, Assistant Superintendent for Instruction. Vruggink monitored the CMES program through Mrs. Mary Edmond, Assistant Principal at South Middle School. The WLC contract was monitored through Richard Bandy, an Assistant Director of Elementary Schools, who in turn depended on Thomas Jackson and William Kirkwood, principals at Franklin and Lexington Schools, respectively. Administration of the Alpha program was the responsibility of Mrs. Joan Webster, local Director of OEO Contract Learning. Although Mrs. Webster's salary came from OEO, she was a district employee.

Day-to-day operation was the responsibility of the contractors' on-site managers, subject to the authority of the respective building principals. District officials became involved only when problems could not be settled at the building level.

The Teachers' Union and Performance Contracting

Since 1955, Michigan has had legislation authorizing collective bargaining by teachers with school districts. GRS has a contract with the Grand Rapids Educational Association (GREA). GREA's Executive Director, David L. Thompson, is generally favorable toward performance contracting. He regards the accountability features as conducive to improving professionalism within the teaching ranks. He is adamant, however, that the GREA should be involved in any aspects of performance contracting that touch on its contract with the district. This position has raised a number of issues regarding Grand Rapids' contract learning. In particular, it has caused some disagreement over the prospect of extra compensation for teachers in the performance-contracted programs. Thompson feels that any additional compensation must be negotiated.

The master contract between the school board and the union provides that GREA be involved in any decision that involves a change in pay or conditions of work. There was a possibility of bonuses for some of the teachers.[4] Thompson's view was that any bonus would violate the first clause in the Union's contract, which states that there will be no changes without negotiation with the union. Vruggink's opinion as of September 1970 was that the district was adhering to the contract by virtue of the facts that all teachers in the performance-contracted programs were on the district payroll, and the district was paying them exactly what the GREA-GRS contract required; he took the position that if any of the corporations provided additional payments or changed the conditions of work, that would be a matter for the contractors to work out with the union. The issue appeared to be whether the district can unilaterally step aside and let contractors take its place at the bargaining table.

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[4] At the beginning of the 1970-71 school year, Alpha indicated that incentive money would be available for teams that did well: $700 for each teacher and $400 for the aides. CMES did not indicate any amount; it said some money would be available if teams did well and if the money were available after the expenses had been met. The WLC program was not involved since there were no incentives to be paid to teachers (and the two Westinghouse Learning Center teachers were very supportive of the WLC program).

This issue is a matter of principle to GREA. Thompson stated that the union is willing to be very reasonable about compensation, but he feels the union has a right to be involved in any decisions. As he stated his position in the fall: "We have an agreement which must be followed. If the Board enters into a unilateral arrangement, it will violate the first article of our agreement. The union wants to be involved. It's an experimental program that we are willing to go along with; however, if we are not involved we are going to court."[5]

This matter came to a head in early May 1971, when Thompson lodged a formal grievance that Alpha had been compensating teachers beyond the terms of the master contract. GREA demanded that Alpha be financially penalized and that Alpha's on-site director and OEO's Contract Learning Project director be fired. Otherwise, GREA wanted all city teachers to draw the same bonus from tax sources. In May, GREA and Superintendent Runkle agreed that contractors would have to abide by the master contract and not award incentive pay unless cleared through the instructional council, composed of teachers and administrators (Alpha was not consulted in the agreement). GREA withdrew its previous demands.

The Superintendent acted to prevent the grievance from coming before the Board of Education, where it might have developed into a nationwide test case on unnegotiated bonuses.

In spite of the controversy, GREA was maintaining a positive stance toward performance contracting at the end of the school year. In conversation, one GREA official remarked: "For once, things are rotating around the kids' learning instead of around administration or teachers." In GREA's view, the main problems with regard to harmony between performance contracts and the master contract are differentiated staffing and the relation of learning center personnel salaries to those of regular staff, and it wants to be involved in these decisions. GRS, naturally, seeks to avoid a third party to its negotiations with contractors.

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[5] The GREA is not afraid to go to court. In 1969, the union spent $23,000 in arbitration over a $50 item involving wages withheld from a teacher who took a day off to observe a religious holiday.

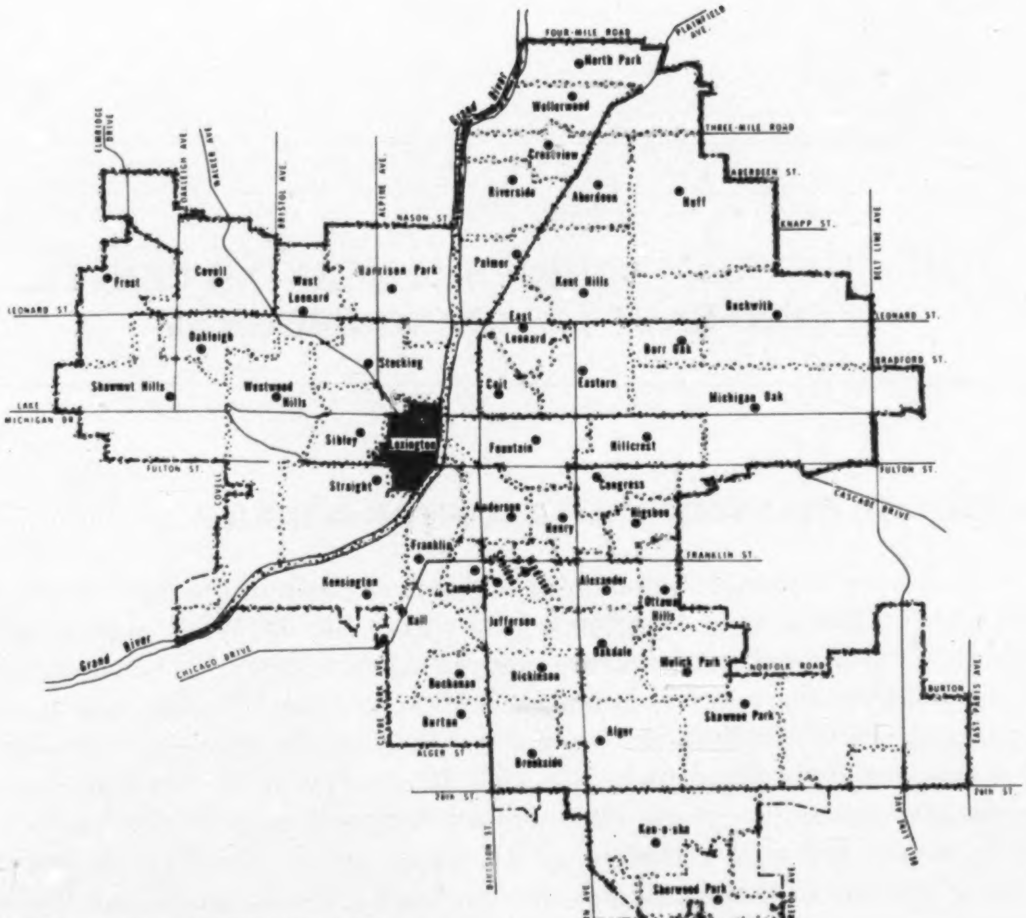
III. THE WESTINGHOUSE LEARNING CENTER CONTRACT LEARNING PROGRAM

PROFILE OF FRANKLIN AND LEXINGTON SCHOOLS

Franklin and Lexington elementary schools are both in the inner city (see Fig. 2); Franklin is black, and Lexington is white. Each has about 250 pupils, one-third of whom are preschool, kindergarten, and special-education. They are both Title I schools; Franklin also receives Michigan Section 3 money. The attendance areas of both schools serve medium- to low-income families. Student turnover for both schools was about one-third during the 1969-70 school year. Figure 3 charts attendance for two consecutive years. These are attendance figures for the fourth Friday of each month, and may, therefore, give a biased picture (for example, the fourth Friday of October 1970 was probably the date for Halloween programs). The waters are also muddied by the inclusion of special-ed, kindergarten, and preschool pupils.

THE WLC FORMAT

The research behind WLC's program began in 1965. WLC's intent was to create a comprehensive environment consisting of a motivational system, self-instructional


FOUR-MILE ROAD
PLAINFIELD AVE.
Grand River
North Park
Wellerwood
THREE-MILE ROAD
Crestview
ELMRIDGE DRIVE
OAKLEIGH AVE
WALKER AVE
BRISTOL AVE.
ALPINE AVE.
ABERDEEN ST.
Riverside
Aberdeen
Huff
NASON ST.
KNAPP ST.
BELT LINE AVE
Palmer
Harrison Park
Kent Hills
Covell
West Leonard
Frost
Beckwith
LEONARD ST.
East Leonard
Burr Oak
Oakleigh
Stocking
BRADFORD ST.
Shawmut Hills
Westwood Hills
Coit
Eastern
Michigan Oak
LAKE MICHIGAN DR.
Sibley
Lexington
Fountain
Hillcrest
FULTON ST.
Straight
Congress
COVELL
Anderson
Henry
Bigelow
CASCADE DRIVE
Franklin
FRANKLIN ST.
Kensington
Campau
Alexander
Ottawa Hills
Hall
Jefferson
Grand River
Oakdale
Mulick Park
NORFOLK ROAD
CHICAGO DRIVE
Buchanan
Dickinson
Shawnee Park
BURTON
EAST PARIS AVE.
CLYDE PARK AVE.
Burton
Alger
ALGER ST.
Brookside
28th ST.
28th ST.
Ken-o-sha
DIVISION ST.
BELT LINE AVE
Sherwood Park
EASTERN AVE
KALAMAZOO AVE.
44th ST.

NOTE: SCHOOL ATTENDANCE AREA
BOUNDARIES AS OF SEPT. 1969

Fig. 2—WLC Programs: Franklin and Lexington Schools

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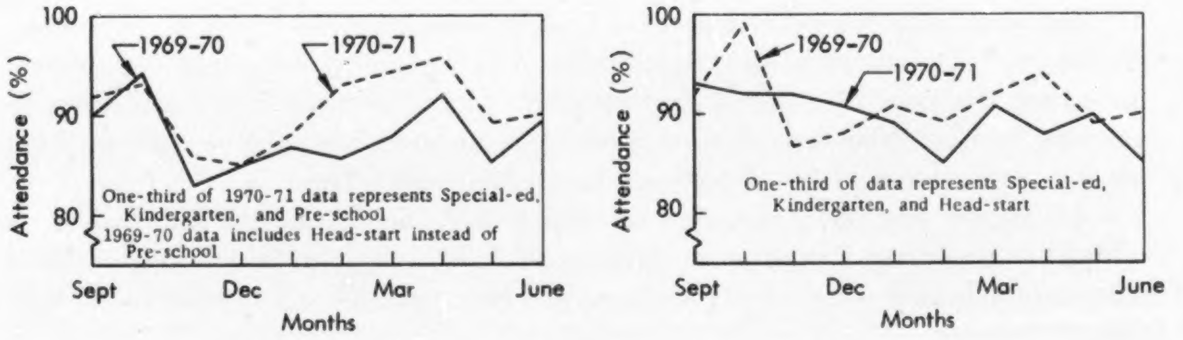

Franklin *Lexington*

Fig. 3—Attendance at Franklin and Lexington Schools
(fourth Fridays)

materials, and a continuous curriculum designed to meet the needs of the individual child in the reading and math skill areas.

WLC has operated a commercial Learning Center in Albuquerque, New Mexico, since 1967, where parents can contract with the Learning Center for their children's achievement in mathematics and reading. The commercial center operates on a guaranteed performance basis whereby parents pay only for achievement realized according to nationally standardized tests. In 1970-71, WLC introduced its learning center concept into public and private schools; it participated in the OEO experiment and ran an independently contracted center in Gilroy, California (see Vol. 5 of this series). WLC characterizes the learning center "concept" as being built upon four elements: (1) curriculum, (2) materials, (3) motivation, and (4) self-management. These are discussed below.

Curriculum

A basic skills curriculum was established with the idea of creating a continuum of individual yet interdependent areas of concentration. Approximately 200 modules for reading and 175 for math were identified as necessary for a meaningful learning experience through levels one to nine. The module is the unit of study for a particular skill, and there are from 8 to 65 lessons per module.

The basic element in the Learning Center Program is the diagnostic approach for determining individual skill deficiencies. A series of diagnostic test instruments have been developed for the respective instructional levels in reading and mathematics. Item analysis is performed on the diagnostic test, leading to a prescription for the particular skill deficiencies in the child's capabilities.

A teletype has been installed on which periodic diagnostic information is relayed to a central computer in Albuquerque, and through which instructional patterns for individual students are returned for implementation within the classroom.

Materials

The materials used to teach the modules in the individual prescriptions are, for the most part, commercially available, programmed, and self-instructional. No single publisher's program is emphasized; the materials have been selected from 25 separate publishers. WLC has developed its own materials for areas in which it believes suitable materials for individualized instruction have not been available. In some cases, one company's materials are used throughout an entire module; in others, those of several companies are blended.

Cassette tape recorders are the only instructional hardware in the Grand Rapids program. For a time, Bell & Howell Language Masters were used to develop reading skills in the Beginning Reading Program, but that part of the program later returned to a more conventional small-group instruction approach in order to incorporate verbal interactive effects into this part of the curriculum. When the Franklin and Lexington learning centers are turnkeyed,[6] the equipment will be turned over to the district for cost less depreciation.

Motivation

The primary motivation tool is contingency contracting. Pupils, with staff assistance, contract to do one or more lessons, upon completion of which they receive a "buzz break" to engage in some specified activity. The activity area is adjacent to,

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[6] In performance contract jargon, turnkey occurs when the contracted learning system or its technology is incorporated into the regular school curriculum.

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but separate from, the learning area, and contains toys, games, and books. One "buzz" equals five minutes.

Other behavior modification techniques are also employed. Faced with the need to have children cooperate and behave in a fashion that will help them learn, the learning center has adopted a point system for rewarding good behavior instead of punishing the bad. In the early stages of a center's operation, points are redeemable by local candy stores and toy shops. Once the desired patterns of behavior have become reinforced, WLC claims that the need for immediate reward diminishes, and can be replaced by internal rewards.[7] WLC personnel emphasize that rewards are based on "subjective evaluation, not success."

Self-Management

The object of self-management (independent learning) is to enable the child to develop a sense of maturity and familiarity with the system so that he can control his own learning experience. Four levels of student-teacher contracting are used to identify the different plateaus of maturity and independence. The levels flow from the totally dependent youngster requiring complete staff involvement to the independent child who is able to manage his own program except for checking module pre- and post-tests.

The level-one child, dependent upon staff for managing his program, is told how many lessons he is to do at a sitting and the number of buzz breaks in the activity room he will earn, receives suggestions for certain activities, and has each lesson checked by a staff member. At level-four contracting, the child selects the lessons to be done, the number of buzz breaks to be earned, and the activity in which he will participate. He also checks his own lessons.

WLC AT FRANKLIN AND LEXINGTON

The original intent of GRS was to bring pupils from all over the district into the learning center, but considering the modest success of their five years of Title I projects, the planners decided to zero in on two schools to try to obtain a noticeable impact. This concentration of effort also figured in the goal of bringing students up to grade level: it was a simple goal that the entire community was likely to understand. As discussed previously, GRS has had trouble selling budgets to the taxpayers, and the district would like some simple and understandable successes to talk about.

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[7] As will be noted later, some GRS teachers feel that this did not happen in Grand Rapids.

Mr. Jack Goldberg, WLC's Learning Center Manager, operated both centers. Goldberg also was the consultant on the two "turnkey" centers (to be discussed later). He felt that one WLC manager (or consultant) for five learning centers would be about the optimum ratio.

There was one district-paid program teacher in each learning center. WLC hired the aides. The principals were made responsible for the progress of the programs, and Mr. Richard Bandy, Assistant Director of Elementary Schools, served as liaison with the Board of Education. Goldberg and the principals tried to handle problems at the local level, but came to Bandy if necessary.

Prior to the opening of the learning center, a week of training was provided for all teachers in the schools. Also, an orientation program was conducted on a weekly basis for the school staff to familiarize them with the learning center on successive Friday mornings for eight weeks beginning on September 18.

The September enrollment was 220 pupils, all enrolled in both math and reading. Two were withdrawn from the program by December for behavioral reasons. The schools changed their teaching format somewhat so that there was no reading and math instruction in the regular classrooms when learning center participants were present. Each teacher spent at least one hour a week in the WLC classroom, and team teaching took up the slack.

Second-Semester Modifications

On January 25, the format of the learning centers (Lexington and Franklin schools) was modified to accommodate all students except special-education, kindergarten, and preschool. The change came with the observation that the 2-1/4-hour sessions were too long to maintain the attention of the lower primary students. Before the change, selected first- to third-graders were in the centers in the morning, and fourth- to sixth-graders in the afternoon. After the change, there was one 75-minute morning session for first- and fourth-graders, and one for second- and third-graders. Fifth- and sixth-graders had a full 2-1/4-hour afternoon session.

The classroom teachers became more involved than before in the operation of the program, both within the learning center and in the classrooms. The teachers for the fifth- and sixth-grade children operated a satellite program that removed from six to ten children at a time from the learning center to provide for oral reading, enrichment, and any other activities considered appropriate. This satellite arrangement allowed each child in the learning center to participate in a group activity for about one hour a week. The teachers for the first through the fourth grades, in addition to functioning in the center, had groups of children in their classrooms for purposes of group instruction, specifically providing for verbal responses in the Basal Reading Series. It was found that their being out of the learning center proper provided a more conducive atmosphere for this type of verbal activity. These teachers, particularly the first- and second-grade instructors, were also obliged to spend some time in the afternoon reinforcing those skills learned as a part of the learning center program, using flash cards, word lists, and so forth; otherwise, the 75 minutes of reading and math would have fallen short of the minimum required under state law.

There were parent conferences in November and March. A written report went home the first week of June.

Contract Provisions

The contract between GRS and WLC (see Appendix D) was almost the same as the one between Gilroy and WLC; one major difference was that the Gilroy contract had a sliding payment provision and the GRS contract did not. The standard fee in Grand Rapids was $149.50 for each achievement-year recorded by each student in the program; if any student failed to accomplish at least one achievement-year in a subject in 120 hours of study, the school was to pay nothing for his instruction. The fee arrangement was negotiated at the superintendent level. The district made progress payments, which were computed by WLC's New York office on the basis of 80 percent of estimated performance to date.

A pupil was to be cycled out of the program when he completed his prescribed instruction modules, a process expected to vary from three to nine months. If he did not meet his exit objective (according to the MAT post-test), he was to be retained in the same program with same goal. Variable exit provided no problem to stabilizing class sizes, thanks to flexible teacher scheduling. The individual exit objectives, all of which exceeded one year of achievement gain, were derived from the diagnostic testing and the MAT pre-tests. In terms of gain, all objectives exceeded one year. The sum of the exit objectives for all students was 960 achievement-years. Accordingly, the maximum payment on the contract was the product of $149.50 times 960, or about $144,000.

The second-semester program modifications also affected contract provisions somewhat. The contracted total learning objectives of 960 achievement years remained fixed, but all students were to remain in the program until the end of the school year, regardless of when individual student objectives were reached. Since all students were pre-tested in September, baseline grade levels for students entering the program at the time of the midyear reorganization were arbitrarily set by adding four months to the pre-test scores.

According to Bandy, it was not realistic (or all that necessary) to insert flexibility into the contract that would protect GRS and the students if the program did not produce. It is hard to determine whether a program is foundering until the end of the year, but the principals and Bandy were monitoring to protect the pupils' interests. The GRS preplanning research was extensive, and there was nothing in the WLC program that, in their judgment, conflicted with the GRS philosophy of instruction (individualized instruction, contingency management, technical hardware, etc.). WLC had to fit into the district's format, and was "not running the two schools."

Individual Exit Objectives

The individual exit objectives were derived by WLC in some unspecified way from the MAT and the diagnostic testing. Those for the upper grades exhibited curious characteristics. Figure 4 depicts the joint distributions of baseline scores (MAT pre-test) and exit objectives for fifth- and sixth-graders for Franklin School. One might expect to find the *gain* objective to be higher for low-baseline pupils in order to cash in on the regression-to-the-mean effect and the fact that many low-achievers may simply be undermotivated; these factors would be accommodated by having the exit objective approach a single score, but instead they seem to have overcompensated. It appears that the lower the baseline score, the higher the expected exiting score—as if the underlying premise is that low-achievers have high intellectual capacity and the learning center will realize that capacity. Another way of viewing the relationship between objectives and baseline scores is illustrated in Fig. 5, which plots the gain objectives versus baseline for Franklin. In this graph, regression-to-the-mean would be accommodated by setting the slope somewhere between zero and minus 1:1 (i.e., 45 degrees downward); but here the slopes are

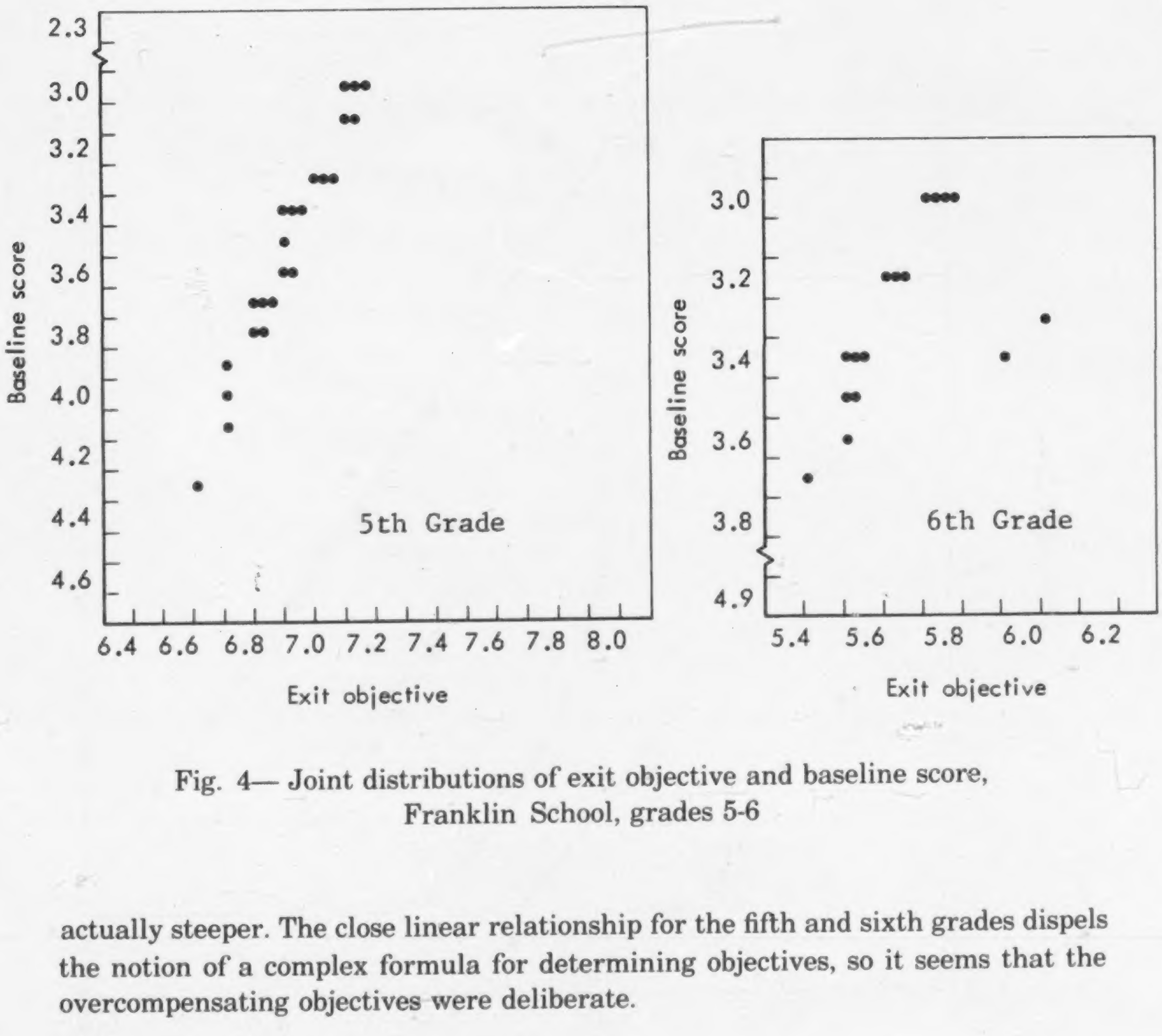

Fig. 4— Joint distributions of exit objective and baseline score,
Franklin School, grades 5-6

actually steeper. The close linear relationship for the fifth and sixth grades dispels the notion of a complex formula for determining objectives, so it seems that the overcompensating objectives were deliberate.

Testing

Contract-specified pre-testing took place on September 3 and 4 (with some makeup on September 8). Post-tests were administered the first week of June. The tests were all Metropolitan Achievement Tests using (1) reading readiness for those who had been in kindergarten the previous year, (2) the primary II battery, (3) the elementary battery, and (4) the intermediate battery. Pre- and post-tests were the

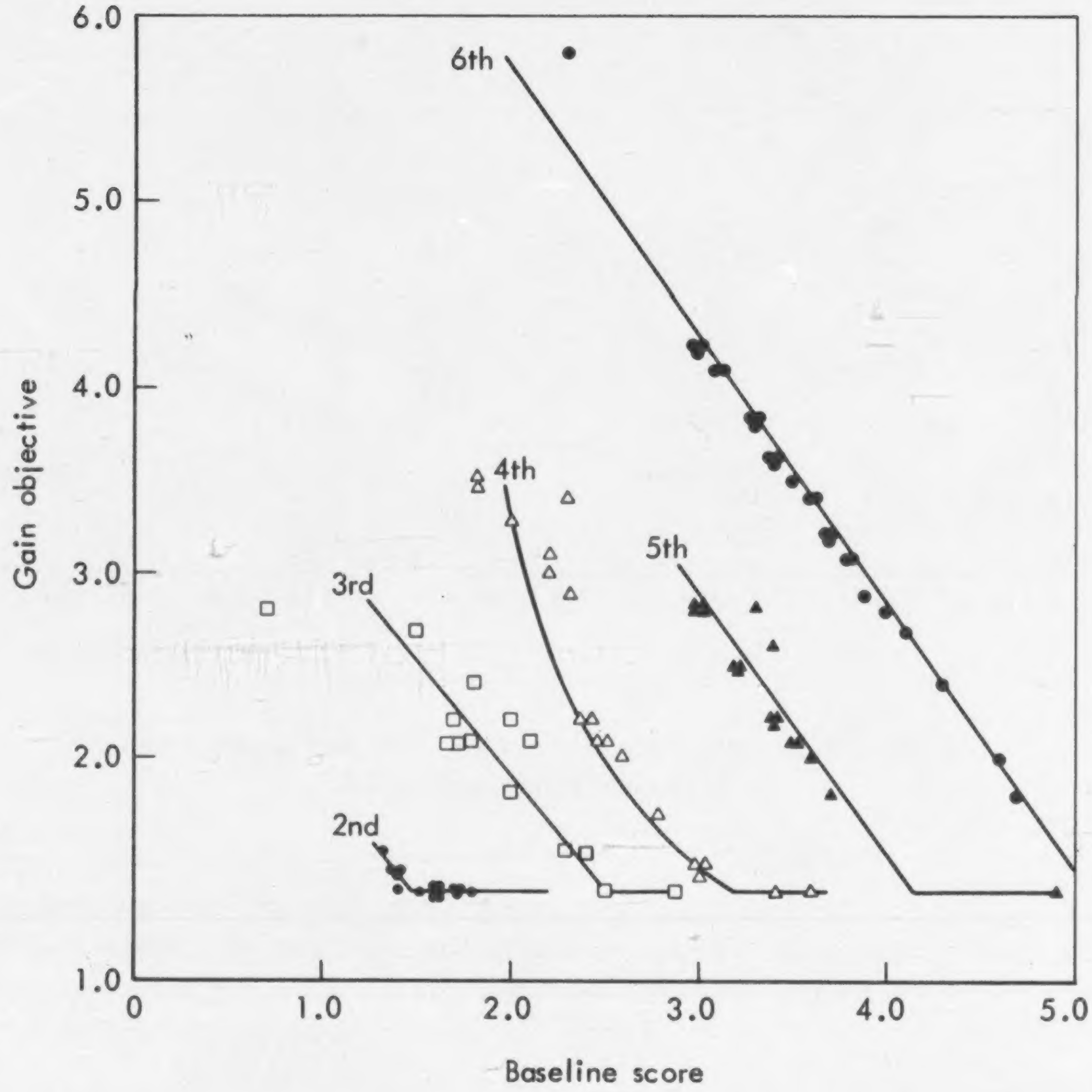

Fig. 5—Gain objectives vs. baseline scores,
Franklin School, grades 2-6

A and B forms, respectively. The district sets its baseline data in math and reading by a simple average of the appropriate subtests in the pre-test battery (e.g., reasoning, vocabulary, etc.). At the end of the year, the district reported that pupils who had been pre-tested totaled 208 for Franklin and 198 for Lexington; these totals included special-education pupils, only a few of whom were included in the learning center program.

One problem of concern to Bandy was that the reading readiness test does not provide the grade equivalents that are used as baseline data. The tests are graded from A to E, which the test manual translates to a grade expectancy as of the end of the school year. Since, in this case, the contract payment formula called for an entering grade level, GRS and WLC were still trying to agree in September on what grade equivalent to assign to the respective letter grades. They finally arrived at the following:

Reading Readiness Score	Assigned Grade Equivalent
A	1.0
B	0.8
C	0.6
D	0.4
E	0.2

Gains in Reading and Math

The average grade equivalent gains between pre-tests and post-tests were as follows:

	Reading		Math	
School	Number Post-tested	Average Gain	Number Post-tested	Average Gain
Franklin	158	0.58	157	0.57
Lexington	177	0.74	176	0.59
Both schools	335	0.66	333	0.58

The above gain statistics are based on a mixed group of full-year participants and half-year participants; the following averages include only those students who attended the learning centers at least 150 days:

	Reading		*Math*	
	Number Post-tested	*Average Gain*	*Number Post-tested*	*Average Gain*
Franklin	61	0.67	60	0.57
Lexington	80	0.67	79	0.59
Both schools	141	0.67	139	0.58

To determine which students achieved one year's growth, it was necessary to adjust gains to account for those who attended for less than the full year. Accordingly, adjustments were made for those who attended less than 160 days, or roughly three-fourths of all participants. The district came up with a formula that did this, and labeled the result "equated grade gain." If a student's equated grade gain was greater than 1.0, he was to be a factor in payment; payment itself presumably would be on the basis of actual grade gain. The numbers eligible for payment according to this formula were:

	Reading		*Math*	
Franklin	69	44%	54	34%
Lexington	90	51%	56	32%

As of August 1, 1971, WLC had not indicated their agreement with the district's formulation.

Table 6 divides the students into groups according to the number of days in attendance in the learning centers. Actual grade gains and equated grade gains are shown for each group. The table shows that equated grade gain can be misleading if used for performance comparisons. For example, the math equated grade gain for Franklin is much higher than that for Lexington. Closer examination shows that the

Table 6

GRADE GAIN RESULTS

Westinghouse Learning Systems, Inc.

No. of Students	Days Attended	Reading Grade Gain		Math Grade Gain	
		Actual	Equated	Actual	Equated
Franklin School					
42	160+	28.4	28.4	23.2	23.2
30	140-159	14.1	16.9	21.7	26.0
10	120-139	8.4	11.6	6.0	8.3
6	100-119	5.0	8.2	7.0	11.4
31	80-99	18.7	37.4	10.5	21.0
31	60-79	8.9	22.9	8.8	22.6
19	40-59	2.7	9.7	3.8	13.9
20	20-39	1.3	7.8	2.6	15.6
19	0-19	3.7	66.6	5.4	97.2
Total 208[a]		91.2	209.5	89.0	239.2
Average		0.577	1.33	0.566	1.52
Lexington School					
50	160+	33.9	33.9	33.0	33.0
43	140-159	28.7	34.4	19.6	23.5
11	120-139	8.5	11.7	5.4	7.5
3	100-119	2.5	4.1	1.9	3.1
44	80-99	34.9	69.8	25.3	50.6
26	60-79	19.4	49.9	14.7	37.8
4	40-59	3.8	13.7	3.1	11.1
4	20-39	0	0	0	0
13	0-19	0	0	0	0
Total 198[b]		131.7	217.5	103.0	166.6
Average		0.744	1.23	0.585	0.947

SOURCE: GRS Special Programs Office.

[a] 208 students were assigned to the Franklin School Program. 50 reading and 51 math students were not tested for final gain results. These were not used in calculation of grade gains and average grade gain.

[b] 198 students were assigned to the Lexington School Program. 21 reading and 22 math students were not tested for final gain results. These were not used in calculation of grade gains and average grade gain.

difference is caused by those students at Franklin with the lowest attendance. Nineteen students with a combined total of only 5.4 actual grade gains contributed 97.2 equated grade gains; the small actual grade gain could have been entirely the result of test error or maturation.

Other Student Data

At Franklin School, student files were examined by the author to obtain individual student data on "working habits," tardiness, absence, and learning steps (*in reading, spelling, English, and handwriting*). These data were taken from Continuous Progress report cards for November 1969, for June and November 1970, and for June 1971. About 20 percent of the files were missing.

The assignment of learning steps within each reporting period for each grade was found to be disappointingly uniform. Either the students progressed at an unusually uniform rate or were being handed convenience grades.[8] The latter is probably more accurate, since the baseline scores indicate a wider dispersion of achievement. In either case, a rating scheme that is weak in discriminating among different levels of performance seems unlikely to provide useful indications of program performance.

Distributions of work habits, tardiness, and absences were briefly analyzed. Work habits for the second, third, and sixth grades appeared to be systematically poor for the original participants; work habits for nonparticipants are more evenly distributed. The original participants appear to have had a more pronounced history of tardiness and absence than the others, a trend that reversed for the first three months before all students were brought into the center.

Summary of Resources and Program Characteristics

Table 7 provides a rough summary of resources that are directly identifiable to the learning center at Franklin School (it excludes, for example, building maintenance, heating, and district overhead items).

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[8] A student's learning step generally depends on his progress through the textbooks, which suggests that students generally progress together.

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Table 7

SUMMARY OF RESOURCES AND PROGRAM CHARACTERISTICS FOR WESTINGHOUSE LEARNING CORPORATION

Franklin School

Characteristics of students	Grades 1-6; inner-city black; low income; transiency 30%; lowest achievers for first 5 months,[a] then entire school (excluding most special education students)
Program scope	
Instruction	Reading and math
Number of students	Initially 100, later 150 (as of February)
Class time	Initially 2-1/4 hr, later reduced to 75 min for grades 1-4[b]
Class size	45-55 (maximum at 60)
Number of sections	3 (1 each for grades 1 and 4, 2 and 5, 3 and 6)
Facilities	
Space	2 regular classrooms
Students/classroom/day	75
Furnishings[c]	30 carrels and chairs, with electric outlets at each carrel; 7 tables, 21 chairs; 3 bookshelf-cabinets; carpeting
Staffing	
Certified teachers	1 (no planning time required)[d]
Special teachers	None[e]
Paraprofessionals	2, on 6-hour day
Other personnel	On-site director and secretary
Equipment	
Telex	1[f]
Cassette tape recorders	30[g]
Materials	BRL modern math texts; large variety of other materials[h]
Pre-service training	5 days for all teachers of school
In-service training	8 morning meetings for entire staff
Other support	None
Incentives	None

For footnotes, see following page.

Table 7--*continued*

[a] In January, all students were brought into the program so that sessions for grades 1-4 could be shortened by one-half.

[b] Since 75 minutes does not satisfy state requirements for reading and math instruction, teachers provided reinforcement in reading and math in the regular classrooms.

[c] The district had about a month to arrange space and install furnishings, which was sufficient time for this particular program.

[d] Regular teachers accompanied their pupils to the learning centers.

[e] The regular remedial teacher was reduced to half-time, and much of her time was subsequently spent in testing.

[f] The one Telex served four learning centers; installation was simple since it transmits via telephone.

[g] Tables and chairs were used about evenly for reading and math.

[h] The materials are listed in Appendix C. Consumable materials cost about $5 per pupil.

YEAR-END COMMENTS FROM STAFF AND PARENTS

In order to elicit a variety of views of the WLC program, informal interviews were obtained from the principals and WLC learning supervisors from each school, one regular teacher from Lexington, two regular teachers from Franklin, and five parents of Franklin students. Although regular teachers were arbitrarily selected from staff rosters, their comments should not be regarded as reflecting prevailing attitudes since only three responded. Two teachers were contacted from each school, but one from Lexington School was too busy to comment. Similarly, caution should be taken in interpreting the remarks of the five parents. Nonetheless, the views are instructive.[9]

Lexington School Principal

According to Principal William Kirkwood, who was also chairman of the district Contract Programs Committee, most of the Lexington staff were sympathetic from the beginning. As late as December, however, two teachers still felt their regular classrooms were just as effective; but by the end of the year they apparently no longer felt threatened, and viewed the center as a useful aid to their own instructional programs. The decisive factor in winning over the teachers seems to have been the midyear reorganization. Before, the teachers spent an hour per week in the centers, but there seemed to be a definite separation between the Westinghouse program and the "regular" program. After the reorganization, teachers were in and out of the centers with their classes every day, and more closely coordinated their instruction with the centers.

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[9] A broader view might be obtained from the *Interim Report to the Board of Education* (Appendix A) and the recommendations of the Contract Program Committee (Appendix B).

In Kirkwood's opinion, "The companies have something valuable to offer, but it doesn't have to be performance contracted—it's just that this seems to be the only way they can get into the schools." After the companies have established their reputations, Kirkwood expects that they will simply sell their services without performance guarantees, as at Sibley and Straight schools.

He likes what he sees, especially the individualized instruction and the diagnostic and prescriptive services. He would recommend that next year the first-year students be phased in after they have received "proper classroom foundation," since it takes them a while to catch on to the self-sufficiency aspects. Westinghouse acknowledges that the program is not quite ready for pupils just out of kindergarten.

The students seem to be performing better; at least everybody is always working, and there are no student complaints. They seem to enjoy the program. In Kirkwood's opinion they enjoy not so much the contingency management as "doing their own thing." Some of the newer upper-grade students who entered after the reorganization are into geometry, and teachers are having to take textbooks home at night so they can review.

There are still some behavior problems, but this is not necessarily a reflection of attitudes toward school. Kirkwood does not think there is any easy way to change attitudes.

Kirkwood administered a questionnaire to 100 parents at midyear. The only negative finding was that parents think they should be more fully informed.

The PTA is weak, Kirkwood points out. Too few parents are interested enough to maintain monthly meetings—they tried that last fall and about four parents came. They do have a PTA board, and they put on a few functions during the year (carnival, Christmas program, open house, etc.) that attract parents. Parents are very concerned about grades, but even after three or four years they still do not understand the grading system of the Continuous Progress Program (GRS's ungraded system for elementary schools). They want to be able to compare their children, and the system frustrates them; the Westinghouse reporting system (criterion-referenced with nothing to compare by) is even more frustrating.

Kirkwood's involvement with the program began last April, when he accompanied Miss Ina Lovell, Director of Elementary Schools, and Bandy to Albuquerque to look over WLC's commercial center for a day. They recommended to the school board that Grand Rapids should contract with WLC. The board finally decided in August, and Lexington and Franklin schools were chosen.

He put in a great deal of extra time because of the center, but he feels he would not have had to if he had chosen to avert his eyes from its growing pains. During the year, he usually spent an hour a day in the center working with the students, and he often accompanied Goldberg on speaking engagements to explain the system. There were numerous reports to be written.

There were no conflicts of authority. Kirkwood ran the school, and together with the on-site manager, he ran the center. The manager looked to Kirkwood for decisions. Kirkwood thinks sheer attitude is at the heart of the matter; problems could arise if roles were misunderstood and the two did not get along.

Lexington School Learning Supervisor

The Learning Supervisor at Lexington School regards her role as exciting, but more physically and emotionally demanding than regular teaching. She had to rearrange her goals somewhat so as to emphasize management skills. Not as much outside preparation is required, but effort in the classroom is much more intense.

She views the learning center as a skill program that must be supplemented by outside enrichment. Even after the midyear revision, the learning center was somewhat more isolated from the regular program than the staff would like.

The pupil participants seemed pleased to work under less teacher pressure, and she felt they exhibited considerable growth in self-reliance.

Lexington School Regular Staff Member

This teacher felt that the self-pride of pupils in the learning center benefited greatly from the deemphasis of interpupil comparison. She would like to incorporate some of the individualized instruction into her own classroom but would need at least one aide.

She felt that one year is too short a trial to tell the worth of the program. Like so many programs originally designed to benefit the slower students, the learning center seemed really to benefit the fast ones.

She is happy that WLC realized that their learning center is really a skills center, and that pupils suffer if there is no oral reading or math review. In the learning center, there was often no time to explore questions to a point of understanding; the machines talk but do not interact, and individual students were sometimes stopped by the vocabulary of the materials. The problems were generally alleviated after the midyear changes, but in some cases at the cost of other subject areas. In her classroom, she had to take time off from music and gym in order to provide reinforcement in reading and math.

The contingency management system causes difficulty with some students because they want to be paid in other classes and at home. Next year, the school will be more careful about rewarding students who perform; this year, the students learned quickly that they would be rewarded if they merely looked busy.

Franklin School Principal

In the beginning, Thomas Jackson anticipated problems of staff orientation, and of securing their support. Many of the Franklin staff were dubious because of previous unpleasant experiences with experimental programs, but at the end of the school year they were mostly in favor of the program. He observed positive attitude changes on the part of the students. Three sets of parents were very concerned at first, but were later supportive. Several open houses have been held to explain the program. His own involvement began when he was informed of the program one week before the end of summer. He was given 1-1/2 days of in-service administration preparation. The program made his job larger because it was a continual learning experience; the give-and-take of how best to make the centers integral to the school was a continual process. The center generated the need for many large and small meetings.

There was no confusion of authority at Franklin; the principal was in command, and he knew the contract. Jackson would like to see the center continued, but modified by reducing the upper-grade sessions by one-half so that the center can be used more effectively and flexibly with a larger number of classes.

Franklin School Learning Supervisor

She enjoyed her position, but does not think that all teachers would want to be learning supervisors; attitudes and personal goals, as well as certain skills, play more important roles than in regular teaching.

The one week of pre-service training by the on-site manager was appropriate for the needs of the job. She did not know whether the actual operation of the learning center conformed to WLC expectations (contingency management, pupil self-management, etc.), and had no recommendations about how the program might be modified for next year.

Franklin School Regular Staff Members

Both of the regular teachers contacted from Franklin School had much to say about the WLC program.

They were divided in their opinions as to whether there had been pervasive influence on scholarship and attitudes outside the learning center, but both regarded the center as an invaluable skills-builder in reading and math. They would like similar capabilities for individualized prescriptive teaching in their own classrooms, but this would require additional manpower. They feel that about one-fourth of the pupils do not respond well to individualized activities and that the first two grades generally do not handle the program very well ("some of the first graders are still lost after being there all year").

They were impressed with the physical set-up, especially the separate study and activity areas. One commented that it was too crowded and too noisy; there should be a noise baffle between the activity and instruction areas, and acoustical tile on the ceilings.

The technology and materials assembled by WLC were impressive. The contingency management arrangement worked well, but one teacher denied that there was any decrease in pupils' reliance on the activity room. "At the end, the kids who needed it were the same who needed it first."

Both felt the goal of student self-management was not realized. They doubted that there was much progress toward self-sufficiency by the end of the year. There was not enough time for the learning supervisor to involve students in the planning of individual study contracts until after January, when the regular staff were given more time to work in the learning center; even then, more than five minutes planning time per pupil was rare. In any case, one of the respondents doubted whether students really want to program themselves. The respondents' comments were undoubtedly tempered by their resentment toward boastful reports of the center's superiority over regular instruction. They claim that the input of regular staff on questions of policy was ignored. Even after the January revision toward more cooperation between the center and the regular programs, there was much friction between regular staff and learning center management. One respondent also felt that the regular staff had very little input to the evaluation of the Contract Programs Committee.

Both respondents would like to be learning supervisors, but would insist on realistic program objectives and different management ground rules.

Franklin School Parents

Ten parents were selected from the Franklin School Master Card Listing, and telephone contact was successful with five; four had heard of the learning center, but knew very little about its purpose. None knew of any other parents with children in the center. The individual comments are summarized below:

Parent A. Two of her children were enrolled at Franklin, one in special-education and the other a first-grader who went into the learning center after January. As far as she knew, her child was not in it, and she did not know any parents who did have children in it.

Parent B. She really didn't know anything about it. Her son was in the center and she thinks he liked it.

Parent C. His children were in the center. He thinks that anything for the children is a good thing and should be continued. "Children must like it because they are participating. Social activity is good for children."

Parent D. She said her children were not in the center and she doesn't know anything about it. Her children had talked about it, and they liked it. She doesn't know anyone with children in the center.

Parent E. Her son was in Project Headstart, and she had no children in the learning center. She had a first-grader in Alpha at Hall. She had visited a couple of times, and really liked it. Her child really liked it. Her big complaint was that the children should not be given tokens. "They learn that they're supposed to get a reward every time they do something, and life isn't like that." Other mothers agree with her. She thinks it has helped her child—at least that's what an aide told her.

Besides, the children discovered that the tokens fit the gumball machines, so there had been a rash of empty machines in her neighborhood.

NONGUARANTEED LEARNING CENTERS

The goal of WLC (as characterized by Goldberg at the beginning of the school year) is to establish and operate learning centers in school settings for about one year, turnkey them, then provide prescriptive and ongoing consultation services. It did not have to wait a year in Grand Rapids. Two elementary schools, Straight and Sibley, decided midway in the school year to implement WLC learning centers of their own, using funds arriving late through Section 3 of the State Aid Act. GRS bought the WLC prescriptive service, the appropriate materials and equipment, and furnishings. They used their own staff, but received consultative services from WLC (namely, from Goldberg). There was no performance contract with WLC; a flat-rate payment was negotiated. Since the learning center in Straight School was one of the control groups for the Alpha project, only grades four, five, and six in that school participated.

The initiative came from the school staffs. Vruggink insisted that the learning centers be installed with no increase in present staff; in order to have more money for the learning center, one principal went one step further and did not replace a teacher who was leaving. According to Vruggink, this represents a reversal of the recent trend in Grand Rapids administrators to accommodate teachers' promises of more achievement in return for smaller classes.

In January, the new learning centers at Sibley (200 students) and Straight (all 110 upper elementary students) became operable. There were some personnel changes at Lexington to accommodate the new centers; new teachers undertook on-the-job training at Lexington. All students were pre-tested. According to the local press,[10] Dr. Vruggink felt that the same educational results could be obtained without the expensive guarantee of the performance contracts at Franklin and Lexington; the $60,000 cost of the two new Learning Centers was characterized as a saving of about 50 percent.

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[10] *The Grand Rapids Press*, Monday, December 21, 1970.

SUMMARY OF THE WLC PROGRAM

WLC's Learning Centers featured contingency management and individualized instruction remotely prescribed from Albuquerque, New Mexico. The program was moderately hardware-oriented, and primarily utilized commercially available equipment and materials.

There were two learning centers, both in inner-city schools. Initially, the centers accommodated the lower achievers of grades one through six. At midyear, the program was revised to include all but the special-education children. The contract set a fee of $149.50 for each student in the program; the maximum total fee was set at $144,000.

Average gains as measured by Metropolitan Achievement Tests were 0.67 in reading and 0.58 in math. In reading, about half the students satisfied the one-achievement-year minimum gain required for payment; in math, about one-third of the students satisfied this requirement.

After school started, GRS contracted with WLC for learning centers in two other schools but dispensed with performance guarantees. These learning centers became operable in January, with WLC providing materials, pre-service training, and supervision.

In June, WLC instruction management activities were assumed by Learning Unlimited, a new firm headed by a former WLC official. GRS contracted with Learning Unlimited, again with no performance guarantees, to continue the four learning centers in 1971-72 and to introduce a new learning center in a fifth school.

IV. THE COMBINED MOTIVATION EDUCATION SYSTEM CONTRACT LEARNING PROGRAM

PROFILE OF SOUTH MIDDLE SCHOOL

South Middle School is in Grand Rapids' Model Neighborhood (see Fig. 6). It receives funds from ESEA Title I and from Michigan's Section 3 funds earmarked for disadvantaged children. South Middle's 1100 students are black, come from low-income families, and are a transient population, as evidenced by a 21-percent turnover rate. The school has had its share of student tensions: it was closed for three days in 1969-70 following a stabbing incident. Absentee rates vary around 15 and 20 percent; Fig. 7 is a plot of attendance for each of the four grades on fourth Fridays. Seventy-five percent of the students are below national norms. The median grade gain per year has been about 0.4. The table below presents average grade equivalents from the September pre-testing with the Educational Development Series published by Scholastic Testing Service.

There is little parent involvement in the school. To illustrate, only 18 attended the CMES parent meeting on September 8. One of the parents, who works in the Model Neighborhood office, said that this is typical at South Middle and that parents are probably not aware of the breadth of the program. She said that Grand Rapids PTAs are practically nonexistent, partly because of busing. Busing tends to separate siblings and thus spread each set of parents over more schools and more area.

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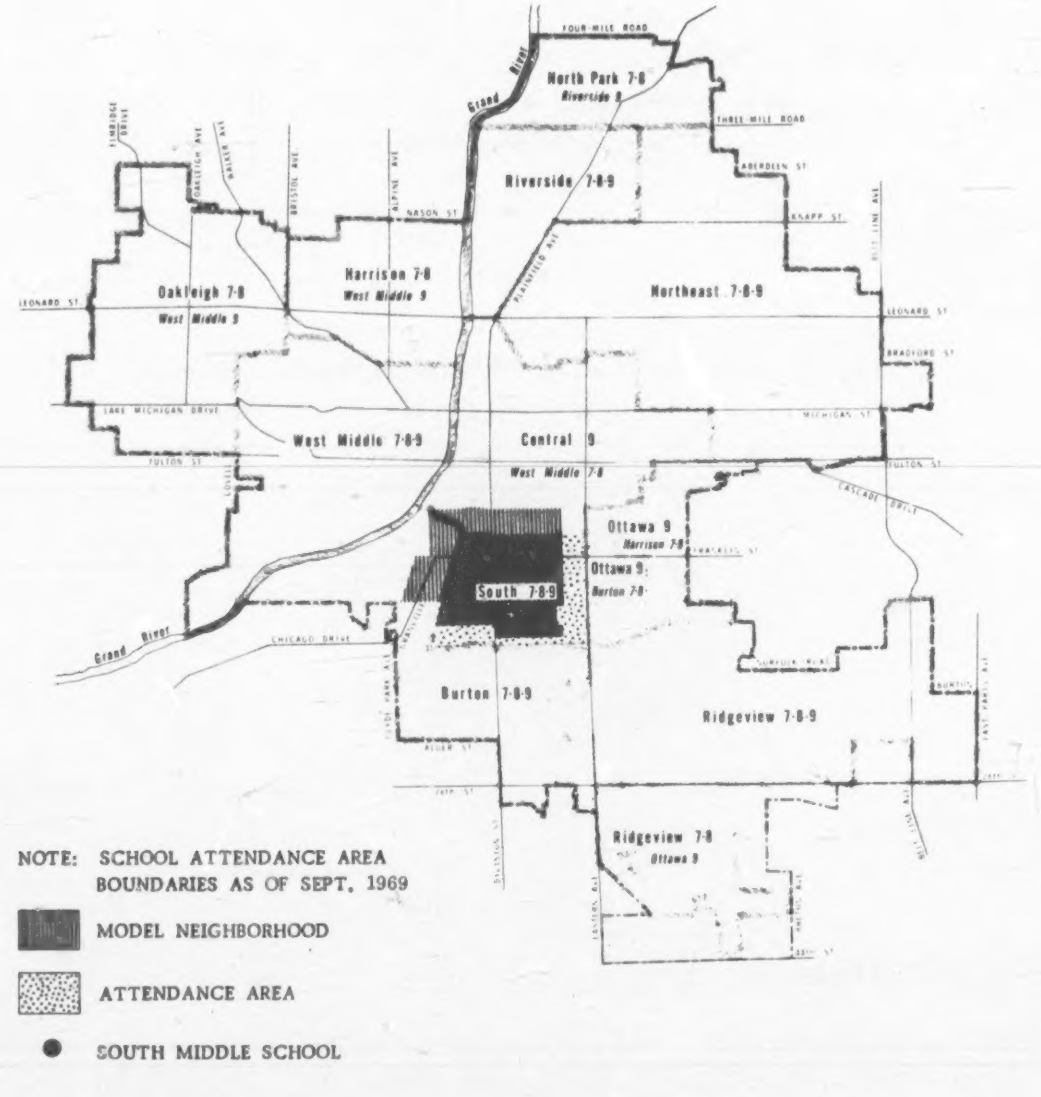
FOUR-MILE ROAD
North Park 7-8
Riverside 9
Grand River
THREE-MILE ROAD
Riverside 7-8-9
ABERDEEN ST
KNAPP ST
NASON ST
PLAINFIELD AVE
Harrison 7-8
West Middle 9
Oakleigh 7-8
West Middle 9
Northeast 7-8-9
LEONARD ST
BRADFORD ST
LAKE MICHIGAN DRIVE
MICHIGAN ST
West Middle 7-8-9
Central 9
West Middle 7-8
FULTON ST
CASCADE DRIVE
Ottawa 9
Harrison 7-8
Ottawa 9
Burton 7-8
South 7-8-9
CHICAGO DRIVE
Grand River
Burton 7-8-9
Ridgeview 7-8-9
ALGER ST
28TH ST
Ridgeview 7-8
Ottawa 9
NOTE: SCHOOL ATTENDANCE AREA BOUNDARIES AS OF SEPT. 1969
MODEL NEIGHBORHOOD
ATTENDANCE AREA
● SOUTH MIDDLE SCHOOL

Fig. 6—CMES Program: South Middle School and Model Neighborhood Area

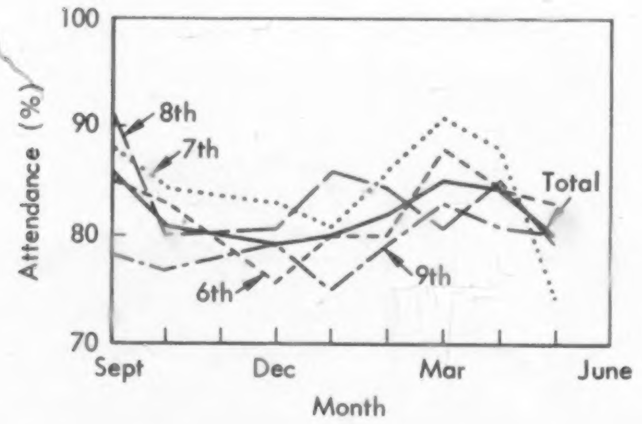

Fig. 7—Attendance at South Middle School, 1969-70
(fourth Fridays)

Grade	*Number of Students*	*Nonverbal Score*	*Reading Score*	*Math Score*	*Total Ability Score*
6	303	5.2	4.2	4.3	4.7
7	251	6.1	5.2	5.2	5.5
8	220	7.2	6.3	6.3	6.7
9	253	8.2	7.3	7.3	7.5
Total	1027				

THE CMES FORMAT

CMES provides seminars and training programs in which participants learn how to motivate themselves to achievement. Their clients include businessmen, school administrators, and retiring military officers. During 1970-71, CMES had two performance contracts—one in Greenville, South Carolina, and one in Grand Rapids. Its educational program is hardware-oriented. The Borg-Warner System-80 machine is used with B-W programs in reading and math. Hoffman Readers, cassettes, and workbooks from Educational Progress Corporation, and math tapes from Electronic Futures, Charles Merrill, and Imperial are also used. There are other materials from a variety of publishers (see Appendix F).

All students entering the program receive thorough diagnostic testing to determine a proper instructional level. Once a student's level is determined, he is again tested to discover the areas within this level needing more concentrated and specialized work.

After all diagnosing has been completed and prescriptions have been written, students work independently at their own work stations on individualized material.

Each student is also allowed to advance as rapidly as his ability permits. A teacher or aide, however, administers a post-test to each student at the end of a series of exercises to determine if he has sufficiently mastered the skills prescribed in those exercises.

Students spend one hour per day per subject in the program (all are not necessarily registered for both reading and math). The academic curricula have a primary, redundant, and supplemental system so that if a child cannot learn a skill through one system, the teacher can try another. One out of every five hours is spent in AMS (achievement motivation sessions). These sessions are like highly structured encounter groups; the intent is to get students to identify past successes, analyze why they perceive the events as successes, then set short-term objectives that increase the probability of success.

After a student has successfully completed an educational task, he is allowed to choose a reinforcing event; this event may vary, but includes such activities as playing games, listening to popular music, reading books, viewing filmstrips, or simply relaxing. As a student becomes more competent, the amount of work is increased and the amount or type of reinforcement is changed and eventually phased down to a minimum.

The performance contract is written in terms of academic performance, while the achievement motivation experiences are designed to personalize and humanize the learning experience.

After two or three years of successful demonstrations, the company intends to turn over the entire instructional system to the school district.

CMES AT SOUTH MIDDLE SCHOOL

The on-site manager for CMES was Mr. Claybeon Coleman; he had been principal at South Middle during 1969-70, but was on leave of absence from Grand Rapids

Schools during 1970-71 to participate in the CMES program. To insure that Coleman would retain his fringe benefits and tenure status with GRS, it was arranged that his paycheck would come from GRS. At their meeting on September 8, however, the school board refused to confirm his appointment since the CMES contract was not yet signed and there was a question of proper and legal sequence. Coleman remained in acting status for a while, as did the CMES program teaching aides. The board did agree to confirm Elia Lumpkin's appointment as principal of South Middle. Acting-Superintendent Muth was very adamant on the latter action; with Coleman's status uncertain, he felt it necessary that there be no question among teachers as to who the South Middle principal was.

The program teachers were chosen by CMES and district officials on the basis of interviews with South Middle School teachers.

The first weeks of the CMES program were marked with some confusion because students were switched among classrooms and some materials had not arrived. Students were discontented; many ninth-graders, who traditionally have the privilege of arranging their own class schedules, tried to get out. They did not like to be experimented on, they disliked being identified with a program that also included "special education" youngsters, and they disliked the initial confusion.

CMES was very unhappy not to be able to move into their classrooms on time. Start-up costs and classroom renovation according to CMES specifications were the responsibility of the school board. CMES felt it was the board's responsibility to put the crews on overtime if necessary. At the time, Mr. Charles Welch, who supervised CMES' performance contracts, was of the opinion that there would have to be deductions from the contracted results because of the late start. He was also unhappy over the large amount of testing that was going on (pre-testing, re-testing, diagnostic testing, testing related to the OEO experiment, and the district testing that would begin in January); he worried that "over-testing" would affect the students' attitudes.

There were to have been 600 pupils in the program but only 453 had enrolled in school by September 8. Because the school would have been hard-pressed to meet the guaranteed student participation, the program was reduced from 1200 to 1000 instructional units—about 540 students (an instructional unit represents one student enrolled in either reading or math).

CMES had rejected nine students for behavioral reasons by mid-November, and 11 more were rejected by June. CMES wanted to reject about 15 more, but Mrs. Mary Edmond, the assistant principal who was monitoring the program to protect the district's interest, talked CMES into keeping them. She regarded the initial confusion as an inappropriate context in which to decide whether a student should be rejected; she also feels that CMES did not try hard enough to handle its student problems in-house (CMES was supposed to handle its own discipline).

Mrs. Edmond predicted in December that 100 or more students would exceed the 10-day absence limit set by the contract; by April, the limit had been extended to 25 days.

As of January, 549 students were enrolled in the program, distributed among the grades as follows:

	Regular Students			Special	
Grade	*Reading*	*Math*	*Total*	*Education*	*Total*
6	176	173	178	20	198
7	115	114	116	11	127
8	118	119	120	7	127
9	32	79	85	12	97
Total	441	485	499	50	549

Involvement of Model Cities

The Model Cities Education Committee[11] conceived of a smaller demonstration program for South Middle School in January, 1969 with the objective of demonstrating the possibility of dramatic educational progress. GRS developed the performance contracting idea for South Middle, which coincidentally suited what Model Cities had in mind. Model Cities agreed to contribute 25 percent of the total budget of the CMES project. As evidence of their support, two board members and one staff member went to Texarkana to observe that pioneer performance contract. They conferred with Thomas of CMES, and in other ways participated in initial planning.

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[11] Model Cities has been a fixture in Grand Rapids for over two years, and has an equal partnership with the city on public programs serving the Model Neighborhood. The boundaries of the neighborhood are indicated in Fig. 6. The city applied for the initial Model Cities grant, specified what would comprise the model neighborhood, and held a public meeting to solicit the participation of citizens living in that neighborhood to serve on the board in the winter of 1968-69. There is a downtown office called the CDA (City Demonstration Agency) that works under the direction of the city manager. The neighborhood office is on Division Avenue near South Middle School. Funding comes through the HUD office in Chicago.

Model Cities officials stated their commitment to maintain "the community's representation" in the project. Their funding did not come through until midspring; their contract with the school district appears in Appendix G.

Contract Provisions

The maximum contractor payment was set at $164,000, and start-up costs were an additional $90,000. Model Cities promised $60,000 ($40,000 for start-up and salaries, up to $20,000 tied to performance). Section 3 provided $90,000, and $100,000 was allocated from Title I.

The contract called for a payment to CMES of $60 per achievement year (see Appendix G); achievement was to be measured by pre- and post-testing with the elementary level of the Educational Development Series published by the Scholastic Testing Service.[12] The district paid for the materials, equipment, and remodeling; CMES generally prefers to supply materials and equipment, but the district had about $100,000 in uncommitted funds that they wished to allocate before the end of the year.

All students who were two grade levels below national norms were selected to participate; others were added to fill out the group. There were 186 school days in the 1970-71 Grand Rapids school year. The CMES contract called for 180 days of instruction, but was not explicit in spelling out what would happen if a minimum of 180 days' instruction could not be provided, nor by what date pupils had to be tested. Unfortunately, rooms assigned CMES were not finished until mid-September; in addition, enrollment in the school did not stabilize until around the 17th or 18th, so it was not known who was in the program, nor could replacements be selected. It was unlikely, therefore, that 180 days could have been available even if there had been none of the usual school-year disruptions. CMES eventually disregarded this requirement.

Dr. Walter Thomas, director of education programs for CMES, has described how he arrived at the contract fee. Thomas projected the first-year costs for 600 students or 1200 units of reading and math, to be $165 per learning unit for costs not explicitly borne by the district (e.g., start-up costs). CMES figured on an average achievment gain of 2.0 years, but underpriced themselves at $60 per achievement

[12] The contract specifies that growth will be measured by "Grade Score Increase." Some of the statistical aspects of this concept are discussed in Appendix E.

year (i.e., $120 per student on the average), counting on lower costs in the second and third years.

At the year's end, CMES expected only 1.3 years' average gain. They were also penalized by a shorter school year (less than 180 days). Because of absenteeism and testing difficulties, payment was made on the basis of about 30 percent of the participants. CMES also risks having to buy the equipment at two-thirds of cost after one year or at one-third of cost after two years if the program fails. Thomas has not been satisfied with normed achievement tests as basis of payment. Accordingly, CMES' future contracts will utilize mastery testing.

Testing

Dr. Anne Kennard, of the Elk Grove, Illinois school district, was retained by CMES to evaluate a number of tests, using criteria specified by CMES. She recommended that the Educational Development Series published by the Scholastic Testing Service (STS) of Chicago be used for the contract-specified pre- and post-testing. CMES provided interim testing every six weeks with the Burnett Reading Series, also published by STS. It had been intended that the first week would be spent in diagnostic tests, but that had been impossible since the learning centers were not yet physically operable.

The Educational Development Series pre-testing was administered on the mornings of September 10 and 11, using the test level usually specified for grades 4 to 6; besides reading and math, the tested areas were (1) solving everyday problems, (2) verbal reasoning, (3) nonverbal reasoning, and (4) future plans. This test was centrally administered over the public address system by the head counselor in two 2-hour sessions, with homeroom teachers monitoring. The motivation of this procedure was to allow a trained person to administer the test without pulling students out of the familiar homeroom setting.

Examiner's manuals for the EDS did not arrive until the night before the testing began, so the teachers did not have much time to study them. Nevertheless, the testing proceeded smoothly according to plan. The use of the intercom system for the timed portion of the test seemed to work well. On the surface, all was orderly.

Three months later, however, Mrs. Edmond raised questions regarding the pretest results, since she felt the students were being overtested. During the first few weeks, the students received the EDS, the Battelle-administered test, the CMES diagnostic tests, and the retesting of students who had obviously played games with their EDS answer sheet. In December, there was the testing of students who scored below "chance" level on the EDS, and the next month saw the start of the regular district testing program.

Students whose scores on the pre-test were below chance level (as spelled out in the test manual) were retested with the lower primary level EDS test. STS was not aware of this retesting, and objected when it found out; the norming group for the primary level test had nowhere near the maturity of the CMES youngsters, and the STS tests are roughly geared to curriculum content anyway. As of February, Vruggink had agreed that the 200 or so chance scores therefore would be excluded from the contractor payment formula, and that the fee for their participation in the program would be equal to the average for all other participants.

Participants were administered post-tests (reading and math sections only) during the last week of May. The complete battery was to be given to a subset of 50 participants. Fifty or 60 participants missed the post-test, even though five days were allowed for this purpose; apparently this should be regarded as characteristic of this student population.

The district evaluation of the CMES program consisted primarily of comparing the EDS pre-test with the EDS post-test, and making a subjective assessment of the overall experience. GRS hired Professor Edsel Erickson from Western Michigan University at Kalamazoo to be the contract-specified independent evaluator. He also was to evaluate the affective aspects of the program. Mrs. Edmond designed an attitude-measuring instrument on her own that was administered two or three times to 50 students in the program and 50 students out of the program; presumably, these data were used in the district's evaluation. It was CMES' responsibility to negotiate a contract with STS, a contract that also includes some evaluation; Erickson's independent audit of test scores was to keep everything aboveboard, but STS nevertheless studiously eschewed contact with CMES to avoid allegations of collusion. Finally, Mrs. Charles Bearden, Model Cities Evaluation Coordinator, was conducting an evaluation of his own.

Gains in Reading and Math

CMES and the district began negotiating contract payment on August 5. CMES was anticipating the average achievement gain per instructional unit to be on the order of 1.3, but some disagreement was anticipated because of absenteeism and testing difficulties. With CMES' agreement, the district decided to determine the average achievement gain simply from the performance of those students who attended at least 150 days and who had taken both the pre-test and the post-test. Under this procedure, 155 students registered an average gain of 1.0 in math, and 140 students registered an average gain of 1.2 in reading. For purposes of payment, these gains were then attributed to the 1000 instructional units (500 in math and 500 in reading) that the district had guaranteed CMES. In other words, the district paid for 500 math achievement-years and 600 reading achievement-years on the basis of the gain of about 150 students.

Although the contract stipulated that gains would be calculated using the STS Grade Score scale, the district chose to use grade equivalents because gains thus calculated were lower; CMES agreed. The difference between the two scoring scales is discussed in Appendix E.

Summary of Resources and Program Characteristics

Table 8 provides summary descriptive information for the CMES reading and math programs at South Middle School. Corresponding information for the regular program is provided where applicable.

YEAR-END COMMENTS FROM STAFF AND PARENTS

Opinions of Mrs. Edmond, CMES teachers, non-CMES teachers, and parents are summarized in the following paragraphs.

Vice-Principal

In the opinion of Mary Edmond, the CMES program is not a panacea, but it would be difficult to design another program that would be more effective; this year's performance was promising, and, in the absence of the operational problems that have already been described, the program could excel. She recommends that a well-documented attitude test be administered at the beginning and end of the program to assess progress toward noncognitive goals. She feels that low parent awareness dampens the impact of the program.

Table 8

SUMMARY OF RESOURCES AND PROGRAM CHARACTERISTICS FOR COMBINED MOTIVATION AND EDUCATIONAL SYSTEMS, INC.

South Middle School

Characteristics of students	Grades 6-9; transiency 26%; black, model-cities neighborhood; low income; lowest achievers according to last spring's testing; special education pupils included; program pupils distributed among all homerooms
Program scope	
No. of students (mid-December)[a]	491, reading; 535, math
Class time	45 minutes per day each, reading and math
Class size	35-40 in Single Center (SC) (40 optimum); 60-65 in Double Center (DC) (optimum)
Number of sections	14 each (7-period day)
Facilities	
Space	4 centers: 1 DC for reading and math; 1 SC for reading and 1 SC for math; each center has an instructional and an AMS area; 1 reinforcement room; total occupies space of 7 former classrooms (walls were changed)
Students/classroom/day[b]	Number of enrollments/number of classrooms = (491 + 535)/7 = 147
Furnishings	Table space for carrels; carpeting; air conditioning; 1 carrel per student per class (approximately 140 total); chairs
Staffing	
Certified teachers[c]	1 per center (i.e., 1 per SC, 2 per DC)
Special teachers	0
Paraprofessionals	Full time: 1 per center, 1 for reinforcement room, 1 substitute
Other personnel	1 full-time director,[d] 1 full-time secretary[e]
Equipment	
Primary unit	Reading: 40 Hoffman reading machines; math: 40 tape recorders/center (80 total)
Supplementary system	Reading: 25 tape recorders/center (50 total);[f] math: 40 flashcard readers (Electronic Futures)
Redundant system	15 Borg-Warner System 80 for reading and math
Materials[g] (10% consumable)	
Reading	2 sets EPL tapes per center; 2 sets Hoffman materials (levels B to G) per center; workbooks
Math	Math mini-system (tapes); workbooks
Reading and math	2 sets Borg-Warner materials (levels 1-8) per reading and math center (i.e., 4 complete sets); 1 notebook per student for compiling materials
Pre-service training	1 week on AMS in-depth training, 1 week going through materials
In-service training	About 2 hours a week
Other support	None; instructional program self-contained
Incentives	None

For footnotes, see following page.

Table 8--*continued*

[a] The total number of students receiving instruction in reading and/or math was 549.

[b] The areal unit here is the space occupied by one of the original classrooms, regardless of how walls were rearranged to accommodate the CMES centers.

[c] The utilization of certified teachers was more intense for CMES than under the regular program. Regular teachers taught six periods a day, and received extra pay for tasks performed at other times, including hall duty during their preparation period. CMES teachers generally gave up their preparation periods to stay in the centers; because of union pressure, they were not eligible for extra compensation. CMES teachers felt that if they had a common preparation period instead of the staggered arrangement, the problem would be solved. The assistant principal felt that preparation for CMES instruction is a more critical need than for the regular program since the former requires individualized instruction.

[d] Not all of the director's duties will probably be incremental to the regular principal's staff when the program is turnkeyed, since the director was not entirely autonomous in running the program, and probably had some tasks that were redundant to normal administrative duties; also, his role will presumably relax somewhat when the program has become established. Another factor is that a significant portion of one vice-principal's time was consumed in monitoring the CMES operation. Thus, it is not unreasonable to presume that the turnkeyed program would impose little additional burden on the normal complement of administrative staffing.

[e] Not all of the secretary's duties will probably be incremental when the program is turnkeyed.

[f] The cassette tape recorders are manufactured by Iowa and Sharp; their maintenance is a troublesome problem since they are not constructed to sustain the constant heavy use they receive in the centers. The program director feels that the more expensive Wollensak recorders would be cheaper in the long run.

[g] It is not clear what common denominator (if any) should be used for comparing consumable materials resources. Except for notebooks in which to compile workbook pages, etc., CMES has no instructional materials that are consumed strictly on a per-student basis; the other consumables are treated as resource materials, to be cut up and distributed as needed. The logical unit would be materials per student per achievement level, but such detail is probably not warranted since only 10 percent of the materials are consumable.

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CMES Teachers

Two CMES teachers were interviewed, one from reading and one from math. The following paragraphs summarize their comments.

The two-week training period was necessary to learn to use the equipment and materials, and to run the AMS. The training was not as good as it could have been, so there will be some changes for next year (the training time will not be increased). There will also be changes in the AMS material to make it more relevant to South Middle School, as well as some changes in instructional materials. CMES also hopes to train some substitute teachers (there were no trained substitutes last year), and to hire a new teacher.

Reading instruction for the CMES program takes much more time than regular teaching, which apparently was something of a surprise to the company. Scheduling problems must be resolved to allow teacher breaks when there are no students in the classroom; breaks are apparently effective only when teachers are completely free of their supervisory roles.

It took the CMES teachers until around January to build up momentum. There was initial disappointment over the Board of Education's seeming lack of interest in getting materials to the school on time, the lateness of the contract, and other complications. Teachers look for great improvements next year. They are, in fact, submitting proposals for change to CMES.

The CMES staff felt professionally isolated from the regular staff, partly because there was not enough time to attend regular staff meetings as well as their own.

All the materials in the program were used; none should be deleted; however, students seemed to respond particularly well to the SRA "We Are Blacks" material. There was a need for more variety in the Reinforcing Event materials, however, as well as more room for that activity. Some students would become bored with RE and elect to remain in the instructional area to look at filmstrips.

While the program provides individualized instruction, it requires a certain motivation toward self-reliance from the students. Therefore, students who simply do not want to be in the program should be released and returned to the regular program or receive special individual attention.

Part of South Middle School's apparent improvement in attitudes may have resulted from CMES, but much should also be attributed to the discipline imposed by this year's new teachers in the regular program. There was a marked positive change in students' attitude toward testing this year.

In a typical CMES week, each student in reading had three sessions of instruction, one in AMS, and one in RE (if his progress in the instructional area was satisfactory). The teacher and the center manager took turns running the AMS. The teacher periodically checked with the aides on the progress of instruction. Students' programs were developed by the teacher; the responsibility of the aides was to make sure students progressed toward their goals, and to help if necessary. Aides did not teach. Students always had supervision, but not necessarily the presence of a teacher.

One of the most useful features of the CMES program was that teachers were encouraged to communicate directly with Thomas of CMES via their "hotline to Chicago." Response was prompt.

Regular Teachers

Two teachers from the regular program were interviewed, one from science and one from social studies. A third teacher was contacted but did not care to comment, possibly because of Superintendent Runkle's request to the staff that the contract learning programs not be discussed until after payment was settled.

These teachers observed the CMES program several times, and had no complaints. CMES did not try to set itself apart from the regular program; the on-site manager had been receptive to inquiries about the programs of particular students.

CMES' physical accoutrements would be invaluable in the regular classroom as a means to provide a nondistractive atmosphere. Individualized instruction would be valuable in the science curriculum, but would require more manpower.

CMES students seem to display a noticeable change in their attitudes toward school. There is a definite need for this kind of remedial program, but it will take another year to determine whether CMES is the solution.

Parents

Working from the South Middle School Master Card Listing (which provides parents' names and addresses) and the January student roster for CMES, we selected 54 parents for interview. Of these, 37 had no telephones listed at the given addresses, and 7 of the remaining 17 were not at home. We contacted 10 parents, 5 of whom had ninth-graders in CMES, 4 had eighth-graders, 4 had seventh-graders, and 3 had sixth-graders. Of the 10 parents contacted, only 5 had heard of CMES, only

4 knew they had children in the program, only 2 knew which of their children were in the program, and only 3 were informed enough to comment on the program. The results suggest that (1) there is low parent awareness of the program, or (2) there is a reluctance on the part of parents and/or students to reveal association with the program, or (3) the January student roster was inaccurate. The following are excerpts from the parents' comments.

Mrs. A—participants in 7, 8, and 9. She said her seventh- and eighth-graders were in the program, but the ninth-grader was not. She thinks CMES is "really nice," and that her children really enjoy the program. The eighth-grader thinks "it teaches better"; he thinks the program should be continued, but cannot say how it might be improved.

Mrs. B—participants in grades 6 and 9. She knew that "one" of her children was in CMES, but she had to ask to find out which one it was. After the interviewer gave her a brief explanation of the program, she commented that children learn better from teachers than from tape recorders. "They don't try to learn when it's already there on the tape."

Mrs. C—her sixth-grader was originally a participant. They moved in midyear out of the South Middle attendance area. She did not know whether her children were in the program before the move and did not know anyone who was.

Mrs. D—participant in grade 6. She knew nothing about the program. She had to ask her children whether they were in it, and two said yes. She had the interviewer talk to her son. He told the interviewer that he and the other children liked it. He could not think of anything he disliked. (This boy was not on the CMES roster.)

Mrs. E—participants in 7, 8, and 9. The mother was not at home for the first call, so the interviewer talked with her eighth-grade daughter. She said that "CMES taught me more than the other classes." She also said that all the children liked it; she could not think of anything that should be changed.

On the second call, the mother was home and was very positive toward CMES. She liked it, the children liked it, the children learned faster. She could not think of anything that should be changed. She does not know any other parents with children in the program. She went to the open house and the program was explained to her satisfaction. "A lot of parents were there."

Mr. F—participant in grade 9. He said he had no children in the CMES. He did not know anything about the program.

Mr. G—participants in grades 7 and 9, nonparticipants in grade 6. He had never heard of CMES. None of his children were in the program as far as he knew.

Mrs. H—participants in grades 6 and 8, nonparticipant in grade 9. She said she had no children in the program, and knew nothing about it. Then she said she had heard favorable talk among the teachers (she works at the school), and that Mr. Lumpkin had shown her the rooms. Three times, she said she would like her sixth-grade daughter (who is in fact on the CMES list) to be in the program. The interviewer talked with the eighth-grade daughter (who is also on the list), and she said she was not in the program.

Mrs. I—granddaughter is a participant, grade 8. She knew her granddaughter was "in some kind of class," but knew nothing about the program except that her granddaughter liked it.

Mrs. J—participant in grade 7, nonparticipant in grade 9. She had to ask her children if they were in the program. One girl said she was, and that she liked the program. The mother knew nothing about it.

SUMMARY OF CMES PROGRAM

The CMES program involved contingency management and individualized instruction. The program was unique in that specific classroom time was designated for the development of achievement motivation. The program was highly hardware-oriented, and utilized commercially available equipment and materials.

The program accommodated the 550 lower achievers in an inner-city middle school, grades 6 through 9 (including special-education children). The contract set a fee of $60 for each achievement year gained by each student in reading or math; the maximum total fee was set at $164,000.

Average gains for those students with pre- and post-test scores who attended at least 150 days were 1.2 in reading and 1.0 in math. For purposes of payment, these gains were attributed to the 1000 instructional units (500 in reading and 500 in math) that the contract guaranteed to CMES.

GRS and CMES contracted to continue the program during the 1971-72 school year, with payment based on interim mastery testing as well as gains on achievement tests.

V. THE ALPHA CONTRACT LEARNING PROGRAM

Alpha's program provided reading and math instruction in three inner-city schools: West Middle, Alexander, and Hall (see Fig. 8). Alpha's programs were part of the OEO's experiment in performance contracting involving 20 programs in 20 cities, 6 commercial contractors, and 2 teacher groups. Alpha also had programs under the OEO experiment in Hartford, Connecticut and Taft, Texas. OEO's RFP (Request for Proposal) and the resulting contract between GRS and Alpha are reproduced in Appendix H.

PROFILES OF WEST MIDDLE, ALEXANDER, AND HALL SCHOOLS

West Middle School accommodates about 1500 students in grades 7, 8, and 9. It receives funds from Title I and Michigan's Section 3. The racially mixed student body comes from low-to-medium-income families. Yearly turnover is about 14 percent. The absentee rates (on fourth Fridays) range between 14 and 18 percent.

Alexander and Hall schools have student populations of about 500 and 400, respectively, covering the first six years plus kindergarten. Both receive funds from Title I and Section 3, and both serve attendance areas inhabited primarily by low-

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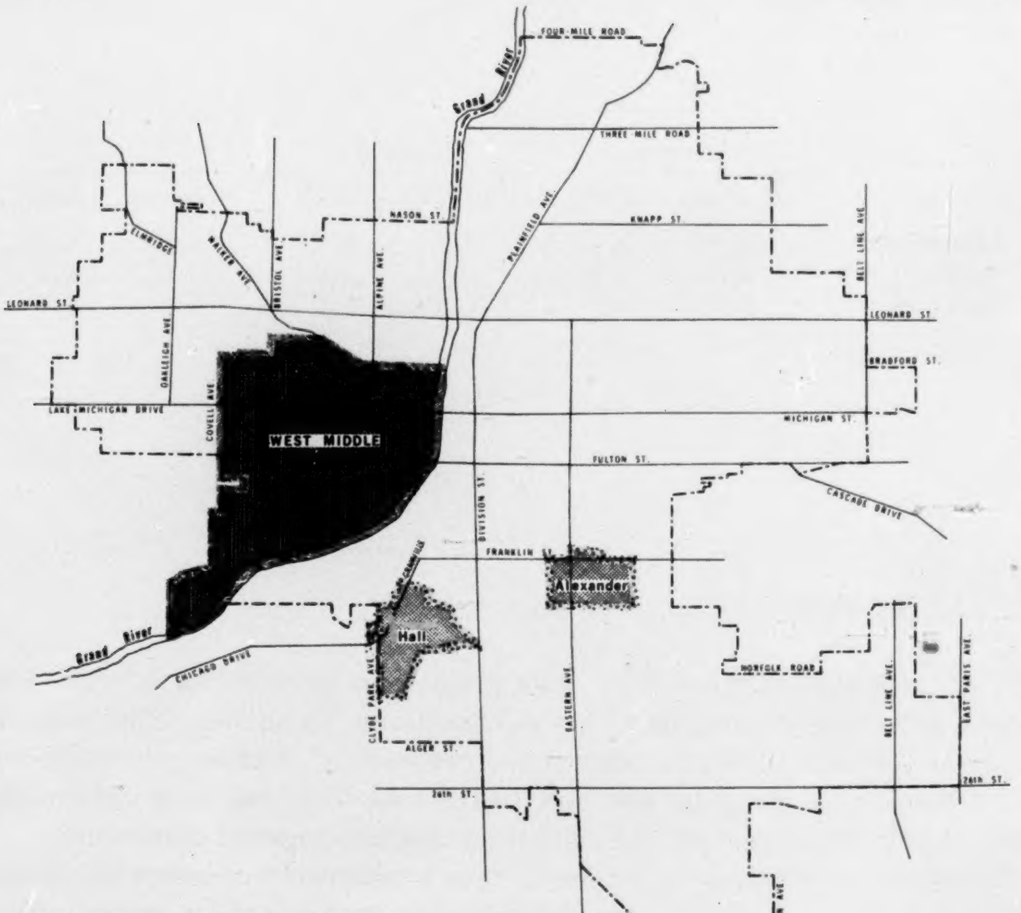
FOUR-MILE ROAD
Grand River
THREE MILE ROAD
NASON ST.
KNAPP ST.
ELMRIDGE
WALKER AVE
BRISTOL AVE.
ALPINE AVE.
PLAINFIELD AVE.
BELT LINE AVE.
LEONARD ST.
LEONARD ST.
OAKLEIGH AVE.
COVELL AVE.
BRADFORD ST.
LAKE MICHIGAN DRIVE
MICHIGAN ST.
WEST MIDDLE
FULTON ST.
CASCADE DRIVE
DIVISION ST.
FRANKLIN ST.
Alexander
Hall
Grand River
CHICAGO DRIVE
CLYDE PARK AVE.
EASTERN AVE.
NORFOLK ROAD
BELT LINE AVE.
EAST PARIS AVE.
ALGER ST.
28th ST.
28th ST.
BRETON AVE.
44th ST.

NOTE: SCHOOL ATTENDANCE AREA BOUNDARIES AS OF SEPT. 1969

Fig. 8—Alpha Program: West Middle, Alexander, and Hall Schools

income families. Alexander is mostly black; Hall is largely black and Spanish-American. Both have turnover rates of about 22 percent, and fourth-Friday absentee rates range from 5 to 15 percent. Achievement, as measured by the Stanford Achievement Test, is generally lower than district-wide averages; some average grade-equivalent scores from the April 1971 testing of grades 4, 5, and 6 appear below:

	Grade 4		*Grade 5*		*Grade 6*	
	Reading	*Math*	*Reading*	*Math*	*Reading*	*Math*
Alexander	2.9	3.3	3.9	4.2	4.2	4.4
Hall	3.6	3.9	4.2	4.6	5.0	5.0
District	3.9	4.1	4.9	5.0	5.5	5.8

THE ALPHA FORMAT

Alpha is a spin-off from WLC. The premise of its program is that "regular teachers, given the training and tools of educational technology, can do as well as an outside, hardware-oriented educational contractor." It characterizes its role as one of giving a team of regular teachers the training, tools, and daily logistic support needed to help them conduct individualized, learner-centered classrooms.

The two bases of this program are (1) heavy reliance on commercially available programmed texts assigned to each individual on the basis of his own achievement level (to provide success experiences), and (2) contingency contracting with the students. Good behavior is rewarded, but there is minimum reaction to bad behavior.

Presumably, a student in an Alpha classroom works individually, at his own pace. He begins each day with a teacher-made learning prescription based on his demonstrated competence and need. He studies in brief, intensive units of time at the end of which his comprehension is immediately tested. If he does not measure up to expected performance or if he still needs work, the teacher gives individual aid then and there; when his performance is high, he is immediately rewarded.

ALPHA AT WEST MIDDLE, ALEXANDER, AND HALL

In Grand Rapids, the program used regular classrooms without modification except for the "free room," which was equipped with games and pinball machines. The program established a token economy, wherein the students received paper scrip or tokens for fulfilling their respective contracts. The scrip could be cashed in for smaller material goods, exchanged for time in the free room, or banked to pay expenses on program-sponsored field trips. Each participant at West Middle spent about one-third of the school day in the program. Alexander and Hall participants attended for half a day.

The intent was to put together an approach that could easily be worked into an existing school with the existing staff; accordingly, Alpha did not press to select the teachers, and it ignored environment improvement. The Alpha staff were very optimistic about their program, and were quick to cite evidence of improved student attitude. As of November, they had rejected only one of the 600 students in the three-school program. They also pointed out that they would ultimately prefer to restrict their role to teacher training and workshops.

The 600 participants were distributed among the grades as follows:

	Grade						
School	*1*	*2*	*3*	*7*	*8*	*9*	*Total*
West Middle				100	100	100	300
Alexander	50	50	50				150
Hall	43	64	43				150

The program at each school occupied three classrooms, one serving as the free room. At West Middle there were three teachers and five aides; two of the aides ran the free room. Two teachers and three aides were in each of the programs at Alexander and Hall; each free room had one aide.

There were two weeks of pre-service for teachers, covering such areas as curriculum, behavior modification, contingency management, and procedures for diagnosis and prescription. The staff attended their own in-service programs rather than those of the district. This amounted to about four days per year.

Selection of Participants and Formal Evaluation

Biotechnology, Inc., under contract to OEO, was responsible for selecting the three schools and the participating students. The Grand Rapids School Board submitted lists of students in the Title I schools, with achievement test scores. These had been ranked, and Biotechnology picked the schools with the greatest deficiencies for the treatment program. The most deficient of the remaining schools became the control group. Students in the treatment and control schools were then ranked according to an average of math and reading achievement scores, and essentially those at the bottom of the lists were chosen.

OEO designated Battelle Memorial Institute as overall evaluator for their performance contracting experiment. According to Battelle's contract, it is obliged to provide participating school districts only with (1) the scores on the pre-test and post-test, (2) the gains between the two tests, and (3) scores on the interim performance testing. Battelle is also supposed to administer (1) an initial questionnaire to all parents covering socioeconomic status (SES) and attitudinal information, (2) an ending questionnaire to parents on attitudes, and (3) questionnaires to 50 ninth-graders at each experimental, control, and comparison group covering attitudes, perceptions, and general feelings; there is no mention of feeding back any of these data to the districts. On the other hand, Mrs. Joan Webster, who was the OEO-funded director in Grand Rapids, was an employee of the district and had the advantage of full-time attention to the Alpha program; she and her staff performed extensive evaluation activities.

In Grand Rapids, certified substitute teachers administered the pre-test under Battelle's supervision. The original plan was to test 600 Alpha participants, 300 comparison group students (nonparticipating students in the treatment schools), 600 of the control group (25 students per grade level per school), and 225 in each of the two special treatment groups (remedial reading at the various reading centers and Project READ at Madison School). To provide the district with comparable data on Alpha, WLC, and CMES, it was later decided not to test the first-grade remedial reading pupils, but to test as many as possible in grades 1-3 in the WLC program (160) and to test a large fraction (400) of the CMES students in grades 7-9. The testing was done in groups varying from about 35 to 300 (the experimental group at West Middle School). Experimental school teachers and others connected with Alpha were banned from the classrooms during testing.

Summary of Resources and Program Characteristics

Table 9 provides a rough summary of resources that are directly identifiable to the Alpha program.

FOLLOW-ON CONTRACTS

GRS and Alpha have contracted to enlarge the program at West Middle School; payment will be mostly on performance, but a flat rate will be charged for youngsters who have a history of poor attendance. The programs at Hall and Alexander schools were also continued, at a flat rate, with all regular teachers having options to take advantage of the facilities. Alpha was the successful respondent to the Request for Proposal issued for a program for the Educationally Handicapped at Coldbrook School during the 1971-72 school year. Alpha was also hired to provide management support for instruction at Fountain and Kensington schools, and to set up a workshop on behavior modification for reading teachers during the summer of 1971.

Table 9

SUMMARY OF RESOURCES AND PROGRAM CHARACTERISTICS FOR ALPHA LEARNING SYSTEMS, INC.

Alexander, Hall, and West Middle Schools

	Alexander and Hall Schools (Same for both schools)	*West Middle School*
Characteristics of students	Grades 1-3; inner-city black (Alexander); largely Latin American (Hall); low income; transiency 20%; lowest achievers	Grades 7-9; inner-city racially mixed; low-medium income; transiency 20%; lowest achievers
Program scope		
Instruction	Reading and math	Reading and math
Number of students	300 (100 each grade)	300 (100 each grade)
Class time	2-1/4 hours	110 minutes a day
Class size	150 in 3 rooms	100 in 3 rooms
Number of sections	2	3
Facilities		
Space	3 regular classrooms	3 regular classrooms
Students/classroom/day	100	100
Furnishings	From regular program	From regular program
Staffing		
Certified teachers	2	3
Special teachers	0	0
Aides	3	5
Other	1 full-time on-site director, shared[a]	1 full-time on-site director, shared[b]
Equipment	No special equipment; free room game equipment	No special equipment; free room game equipment
Materials	Variety of programmed instructional materials (17% consumable); free room materials	Variety of programmed instructional materials (75% consumable); free room materials
Pre-service training	2 weeks on curriculum, behavior modification, contingency management, diagnosis and prescription	2 weeks on curriculum, behavior modification, contingency management, diagnosis and prescription
In-service training	4 days during year in lieu of regular district in-service	4 days during year in lieu of regular district in-service
Other support	None	None
Incentives	None	None

[a] With West Middle School.

[b] With Alexander and Hall Schools.

VI. CONCLUSIONS AND IMPLICATIONS

At the end of the year, the GRS opinion of its performance contracts was mixed, though predominantly favorable. It appears that the technology and organization packaged by each contractor constitute effective learning systems, but the performance payment machinery is generally regarded as bothersome.

Most people involved with the programs have been favorably impressed, but look for more visible improvement in the second year of operation. These sentiments were borne out by the interim report to the Board of Education (Appendix A), by the recommendations of the Contract Programs Committee (Appendix B), and by personal conversations with many people around the district.

The CMES and WLC programs "worked" in the sense that conventional measures of achievement indicated somewhat better performance than would be expected from regular instruction; although test data were not available for Alpha, the opinions of persons close to the program indicated similar performance. Moreover, all three successfully offered approaches to systemizing instruction, provided individualized instruction, and set pupil motivation as an important objective (although some might argue that the motivation was for irrelevant rewards).

Grand Rapids has elected to hold final judgment in abeyance for a year, but the fact that these programs will be expanded is testimony to its optimism.

CMES will continue at South Middle School, with payment to be based on interim mastery testing as well as gains on achievement tests. Minimum and maximum bounds will be placed on payment.

WLC has phased out its instruction management activities, but their learning centers will continue at Franklin and Lexington schools on a flat-rate per-student basis under the management of Learning Unlimited (a new firm headed by a former WLC official). There will also be learning centers at Sibley, Straight, and Coit schools, all at flat rates.

Alpha will be expanding its operation at West Middle School; payment will be mostly on performance, but a flat rate will be charged for youngsters who have a history of poor attendance. The programs at Hall and Alexander schools will continue, at a flat rate, with all regular teachers having options to take advantage of the facilities. Alpha was the successful respondent to the Request for Proposal issued for a program for the Educationally Handicapped at Coldbrook School. Alpha will also be providing management support for instruction at Fountain and Kensington Schools, will set up a workshop on behavior modification for reading teachers, and will be assisting the district in studying alternative education for drop-outs.

District management of all contracts will be centralized under Mrs. Webster, who will be Coordinator of Contract Learning. She will report directly to Dr. Vruggink.

IMPLICATIONS OF A DISTRICT'S ROLE IN SECURING A SUCCESSFUL PROGRAM

It appears that the success of any innovative instructional program greatly depends on the manner in which the district approaches the project. Performance contracting seems to bring certain aspects of public school systems into sharp focus.

The results of its 1970-71 experience have a number of implications for Grand Rapids and for many other school districts. Without trying to be exhaustive and with no desire to laboriously plow well-tilled fields, we may briefly discuss several conclusions that appear to be justified concerning (1) the need for tightening contract specifications, (2) strategies for building enthusiasm among district personnel, and (3) characteristics of district organization and policy. The intent is to identify some of the less obvious policy considerations as they relate to performance contracting.

Tightness of the Contract Document

The safeguarding virtue of the contract depends on how well it is constructed. In drafting the contract, the district should remain skeptical of the contractor's theories regarding patterns of achievement gains, the declining importance of extrinsic rewards in contingency management, the development of pupil self-management, and the like. One should judge how the program will be affected (teacher workloads, for example) if one or more of these constructs do not work out as expected, and how the contract should handle such eventualities.

No matter how theoretically promising the program or experienced the contractor, it is wise to have the flexibility to modify in midstream. It is to the credit of both WLC and the building administrators that they acknowledged the boredom of the younger children and the potential for wider school involvement in the centers, and were free to make constructive changes at midyear.

Anticipating Contract Anomalies and Changes. The contract may only appear to have very explicit terms of payment; if so, a few contract violations or misunderstandings on either side can easily turn payment into a matter of negotiation. There should be specific remedies for contract violations. The team-like togetherness of district and contractor during the school year may evaporate at payment negotiation time. Most problems can probably be avoided by using realistic contract premises and specifications (e.g., minimum days per school year, maximum absences per pupil, and conditions for rejecting program participants). The contract should minimize the situations which fall under the rubric, "all normal administrative procedures will be carried on as usual."

At the start of the school year in Grand Rapids, for example, the payment provisions in both the CMES and WLC contracts seemed straightforward. As the year progressed, it became clear that because of testing difficulties and absenteeism, large numbers of the participants would not be eligible for inclusion in payment formulas. Neither the district nor the contractors were happy about the situation, but the remedy involved new questions that had not been addressed in the contract (e.g., "For payment purposes, would it be fair to pro-rate the gains of chronic absentees across the days of actual attendance?").

Analyzing Factors that Bear on Payment. Factors that bear on payment should be analyzed, especially the tests to be used and the particular score-scaling with which results are reported. There may be problems in giving scores validity if the test level does not match the age level of participants, or if pre- and post-test scores are not strictly comparable (e.g., first grade pre-tests for which there are no grade equivalencies). If payment involves specific grade objectives, as in the WLC program, the district should know the formula and rationale behind the objectives.

Payment criteria should reflect all program objectives in which the district is seriously interested, including elusive noncognitive goals. There has been little successful experience in measuring changes in student attitudes, or even in articulating what specific attitudes are important in different situations. A district might give impetus to experimentation by making attitude change a real, though small, factor for payment.

Selection of Participants. In selecting pupil participants, there is more to consider than achievement level. If a program aims to introduce individualized instruction without lowering the student-teacher ratio, it probably involves a highly systemized approach requiring a measure of self-reliance on the part of participants. Some pupils may not function well in this environment and, if included, the contractor will probably insist eventually that they be rejected from the program. There is, for example, the disruptive "problem child" who drifts along in regular classrooms at the expense of other pupils. If the contract learning setting does not accommodate drifters who fail to be motivated by the program, the child suddenly becomes a problem that can no longer be ignored or passively tolerated. Consequently, even though the school may be relieved from providing for lower achievers, it may still be obliged to make special arrangements for "problem" pupils.

The On-site Program Monitor. The performance contract presents a need for management planning (specifying who is to be responsible for what, and what is to be his sphere of authority). For example, the role of the performance contract on-site evaluator (or program monitor) is often assigned to a building administrator. This has advantages and disadvantages, depending on his personal characteristics. The building administrator is naturally familiar with his school, but he may have limited authority in a large district. The program monitor should be someone who can devote a considerable portion of his time to that function, if he is to provide evaluation for program improvement as well as contract control. He should be independent enough from the school to avoid convenient "clubbiness" with contractor personnel. He should report directly to whoever negotiated the contract and not through ambiguous chains of command. He should be in a position to act as an expediter, especially during the program start-up period. The cost of a district program monitor is a significant but appropriate program cost.

Strategies for Building Enthusiasm Among District Personnel

Much has been said on the theme that the turnkey phase may be headed for failure without the school's active support, enthusiasm, and commitment to detailed planning. These same attributes may be the overriding factors for success of the performance contract phase, especially at the building administration level. There should be a real effort to make the principal more than a disinterested observer, for he is the key man if the innovative program is ever to be integrated into the school's regular program. Some principals may view such involvement as merely part of their jobs, while others may see it as extra burden.

Channeling Ambition. Since the performance contract and its accompanying instructional technology may be regarded as part of the frontier of the education profession, some may actively participate to promote their professional growth; this could be true of teachers, principals, and middle level administrators. Accordingly, the district might adopt the strategy of channeling the ambitions of key personnel as a route to expediting a program's success. Certainly, last year in Grand Rapids there were several hard-working key people who were at least partly motivated by professional advancement.

A school district should recognize this factor and learn to profit from it. Of course, there is a danger of alienation of allegiance from the school to the contractor, especially if the person in question is buried in a large school system. The larger the organization, the less there will be personal identification with policy, and, presumably, the more susceptibility there will be to temptation. Certainly, persons thus motivated should not be cast as evaluators. As for teachers and administrators, the main cost to the district is that the ambitious ones may soon move on to better jobs.

Influence of Learning Center Staff. The single most important person relating to technical success—achievement of program goals—is the one who heads the program at the building level. If the school has only one learning center, that person would be the learning center teacher, or supervisor; in a larger program, he might be the on-site manager. Whoever he is, he sets the tone of the whole program in that school. To a large extent, pupils and regular staff will judge the program on the merits of his technical and interpersonal abilities. In one of the GRS contract learning programs, for example, there seemed to be a marked difference in how the regular staff perceived the success of two of the program's centers, although achievement gain was about the same for both. It was alleged that mismanagement precluded success in one of the centers, whereas remarks about the other were generally positive.

Catering to Perceptions of Regular Staff. Teachers have their own viewpoints that may tend to distort their perceptions of instruction techniques. However, assuming a pupil-oriented system, teachers are on the front line. Their attitudes go a long way toward molding the system's effectiveness. Perhaps pragmatic management (which may have predilections of its own) should more often accept these perceptions as "facts of life" and avoid squaring off with teachers over innovative programs. Accordingly, management's alternatives would be to (1) accede, (2) design and administer new programs so as to avoid conflict, or (3) remold (through training, propaganda, and involvement) teachers' perceptions to align more closely with those of management.

Hierarchal Myopia. One factor that has played an observable role in the management of contract learning might be termed hierarchal myopia—that is, the visibility from any level in an organization tends to be hazy for any but adjacent levels. When conflict arises in the lower echelons, an administrator may seek to make his own life simpler by siding with the nearest party to the conflict in the chain of command. This was the alleged situation with a series of conflicts that arose in one school between contractor personnel and the regular teaching staff; one of the regular teachers felt that the on-site manager adjusted his policies to keep the program teacher happy, rather than rely on the judgment of his own experience. Another teacher felt that the district made only cursory efforts to obtain teacher and student evaluations of the contract learning programs; to be fair, it should be reported that one district official felt that student and teacher coverage was ample.

Of course, myopia also hinders upward vision, but since this section is oriented toward management, the premise is that management has the burden of understanding.

Characteristics of District Organization and Policy

One can safely assert that many aspects of public education diverge more or less from the ideal; given the political and social context, these aspects manage to stay submerged without arousing too much attention. Performance contracting has a way of bringing some of these to the surface where they pose direct problems. The most obvious, for example, might include the state-of-the-art of testing and measurement, evaluation practices, and questions regarding the long-term effects of contingency management. The following pages focus on some of the more subtle problems that may arise from the way the district is organized and managed.

Entrepreneurs and Public Education. The most pervasive of these problems seem to arise from the whole process by which a school system sets its goals, chooses and implements strategies, and measures and evaluates performance. School systems typically state goals in terms of generalities, largely because it is simply too difficult to articulate their mandate in terms of explicit performance (except, perhaps, for cognitive growth). Strategies are adopted on a piecemeal program-by-program basis, and performance measurement seems to be limited in terms of both what is measured and how it is measured. Performance contracting, on the other hand, functions most smoothly when administrators close the loop among goals, strategy, and evaluation.

The interface of private and public enterprise through the performance contract obliges the school district to adopt business-like attitudes from the board of education on down; more decisiveness is required than is usually found in the public education machinery. Public education is a Constitutional mandate, but individual private enterprise generally exists by virtue of profitability; it should not be surprising to find the former at a disadvantage in the latter's ballgame.

Source of Funding Versus the Pupil's Interest. The Grand Rapids School System is probably more pupil-centered than most (as reflected in its broad range of special instructional programs, Continuous Progress Programs, etc.). On the other hand, in some ways the administration appears to be organization- and budget-centered. Source of funding plays an important role in determining how much interest an instructional program will generate in the superintendent's offices. For example, of the three contract learning programs, there was much less interest in formally evaluating the Alpha program because its funding (and presumably accountability) was outside the control of the district. That this funding effect is not unique to Grand Rapids is reflected in a CMES executive's statement that, starting in 1971-72, CMES will not enter into new contracts unless they are largely financed from operating funds.

Information Flow. The generation and flow of information can be criticized in most organizations, and Grand Rapids Schools are no exception. As has been already mentioned, there is difficulty obtaining certain planning and evaluative data from the top to the bottom of the hierarchy.

Information exchange at midadministrative level within the district seems to be further hindered by conflicting interests, however subtle. This underscores the need for top officials to seek out countervailing opinions on certain issues.

Information systems are bulky and not easily changed, and it is understandably impossible to anticipate everyone's needs. It might be useful, however, for the data processing personnel to keep a journal of nonroutine data-requests as a reference for future modifications of the system.

Administrative Procedures. Procedures laid down by school administrations are sometimes characterized as barriers to education. A recent position paper of the Michigan Education Association has attributed part of a performance contractor's success to the notion that "he brings to the school a well thought out system and operates the system free and unencumbered by the school administration of the district." A Grand Rapids School administrator has been quoted to the effect that the contract learning programs can circumvent the district's procurement red tape, and therefore are more responsive to needs for materials and equipment. Another administrator has countered that regular district instruction does not have as much money at its disposal. Perhaps the lesson is that the district should try to rearrange priorities somewhat to allow teachers greater flexibility in acquiring instructional materials. Materials are an integral part of instruction (along with staff, facilities, etc.), but they represent a small fraction of the budget. The district might, therefore, get a lot of mileage from a relatively small increment of funding in this area.

Research and Development. Grand Rapids is probably among the leaders with respect to organized testing and evaluation. Even so, Grand Rapids might profit from a more broadly based and systematic program for testing, evaluation, research, and training. As in most districts, copious data seem to be collected that receive only cursory analyses. On the other hand, there are some student data that are not centrally collected but which could usefully enhance interpretation of district test data.

It would seem that more could be done to provide meaningful feedback to the building level, perhaps supplemented by formal in-service training in problem areas. One building administrator has commented that the district often initiates new programs with much fanfare, but fails to provide adequate follow-up evaluation and retraining.

The present line-item budgeting makes it very difficult to extract certain kinds of planning and evaluative information. There is no way to get a good feel for the costs of different areas of instruction, for example. There also is no way to determine what the district pays for evaluative and developmental activities; some line-items are exclusively in these categories, but unspecified fractions of many more line-items are also involved. Grand Rapids Schools are now exploring program budgeting, which may enhance both their pupil-centered orientation and their administrative effectiveness.

Data Quality. If a larger evaluation budget brought about increased utilization of data, there would be a parallel need to monitor the quality of the data itself. Leaving the intractable content-validity issues for the theorists to debate in the journals, there is the straightforward matter of precision—that is, how carefully the measurements were taken and the data collected. The most rigorous analysis is helpless in the face of data that have been cavalierly assembled, and this is generally the case with data that are collected at building level in response to obscure memos from higher up. In such cases, the evaluation staff should conduct periodic data audits down to the lowest level of collection so as to verify data accuracy, but, more important, to impress on the data collectors that accurate data *are* important.

Community Relations. Innovative arrangements, such as performance contracts, often spotlight community relations, either because this is a condition stipulated by the funding agency, or because school administrators are uncertain of public reaction. Assessing the public interest on such occasions may merely verify a pervasive detachment from school affairs in general, as was found in the South Middle School attendance area. One suspects that effective community relations require a continuous ongoing program rather than the piecemeal efforts occasioned by innovative instructional programs. As an aside, one wonders how much parent support is dissipated by report cards that parents do not understand (e.g., Continual Progress and WLC parent reports). If the district is courting community support, perhaps it should consider modifying report forms to ease the burden of understanding.

PERFORMANCE CONTRACTING AS CHANGE-AGENT AND SAFEGUARD

One of the main benefits of the performance contract appears to be its usefulness for introducing innovations in instruction. This seems to have been the overriding consideration in Grand Rapids. At the beginning of the 1970-71 school year, one school administrator commented that contractors offer nothing new in the state-of-the-art, but that Grand Rapids Schools generally do not have the wherewithal to initiate such innovation themselves. The contractor offers a package backed up by its research and organizational capabilities, capabilities that are more specialized and aggressive than might normally be found on a school district staff. The organizational capability is very important; Dr. Vruggink, the Assistant Superintendent for Instruction, has commented that the important ingredient "may not be the system, but merely being systematic." The performance contract also has an aura of accountability, which might be contagious, and it imposes demands for good financial planning information that may otherwise be unused or even ungenerated.

The performance contract also gives the district some control when dealing with a contractor who is relatively unknown or inexperienced. The research and development that the district is buying is not really completed until the program is successfully installed in the district's schools. A district can be reasonably certain that the innovative program will be in some sense exploratory during the first year of implementation. This may mean minor modifications to accommodate the particular characteristics of the host school or broad revisions of program components that simply do not work. In one school during 1970-71 (not in Grand Rapids), it appears that the contractor had not developed part of its program beyond the conceptual planning necessary to write the contract. In any event, the performance contract provides assurance that the contractor will be actively involved throughout the year in searching for improvement.

Appendix A

INTERIM REPORT TO THE BOARD OF EDUCATION

PERFORMANCE CONTRACTING PROGRESS
April 2, 1971

I. Descriptive Data

Name: ALPHA LEARNING SYSTEMS
Company Manager - John Cline
Project Director - Joan Webster

Financing: 100% by Office of Economic Opportunity

Sites: A. West Middle School

1. 100 students in each of grades 7, 8, and 9.
2. 3 certified teachers, 4 educational aides.
3. Reading and Math - 45 minutes each per day.

B. Hall School and Alexander School

1. 50 students in each of levels 1, 2, and 3 in each school.
2. 2 Alpha teachers, 2 educational aides.
3. Reading and Math and Freeroom - half day.

In-Service: Two-week intensive workshop in August for teachers and aides with emphasis on behavioral psychology and contingency management.

Testing: Battelle Testing Company, hired by O.E.O. Contract calls for no release of interim results until project is completed. Burton, Sigsbee and Straight are being used as control schools.

Name: WESTINGHOUSE LEARNING SYSTEMS Company Manager - Jack Goldberg

Financing: Title I and Section 3

Sites: A. Lexington and Franklin Schools

Started as half-day program in Reading and Math in September for 110 students at each site. (55 students in A.M. and 55 students in P.M.) Time was considered long for early elementary, so was changed to 1-1/4 hour sessions at semester. This also gave an opportunity for all students and teachers to participate.

B. Sibley and Straight Schools

Started at request of staffs in January. Diagnostic and prescriptive service purchased only for a flat rate. Whole staff involved. Upper elementary only at Straight School.

In-Service: August 1970 in Behavior Analysis and Management.

Testing: Metropolitan Achievement Test administered by our own Testing Department.

Name: COMBINED MOTIVATION EDUCATION SYSTEMS Company Manager
Claybeon Coleman

Financing: Model Cities, Section 3, and Title I.

Site: A. South Middle School

1. 500 students in grades 6, 7, 8, and 9.
2. 4 teachers, 9 aides.
3. Reading and Math - 45 minutes each per day.

In-Service: Two weeks in August for teachers and aides.

Testing: Scholastic Testing Service administered by our own Testing Department.

General comments: All programs practice some form of reinforcement system (contingency management). None are tied into their own hardware or materials system, but put together combinations of existing materials from various sources.

O.E.O. has contracted with Battelle Institute to sample test all programs including our Project Read.

II. Subjective comments - School personnel

ALPHA

Principal: A big change in work-study habits, Discipline and control is much easier. Improvement in individual self-control: "They don't have to fight to build their ego, they build self-esteem and positive self-concept by a study task."

It is a consensus of the Alpha teachers and myself that the greatest weakness and inadequacy is in the readiness and early primary areas which need restructuring in both reading and math.

The testing situations at the beginning of the year for certification and placement got us started off in negative fashion due to poor planning, preparation and orientation of testers and poor grouping for testing of children by Battelle Memorial Institute.

Principal: The things I like about Alpha are the positive approach, the consistency, the effort, the motivation and continuity that has been maintained as a daily process to make the program really work by the Alpha teachers and aides.

Also, possibly instant reward if retention and recall are apparent and serves to stimulate desired responses.

Teacher: The positive reinforcement approach, using the token economy and social reward system, "has been very effective with almost all children - a real "turn-on" particularly for the unmotivated, underachieving child."

Some of the kids get so "turned on" in the programmed materials that they don't want to stop to go to the free room or to recess.

Social Worker: One of our boys who has been unable to function (little self-control) in regular class, is really working.

Parents: Response at conferences was "positive." Many parents have told Alpha teachers that they can see a big change in behavior and attitude at home.

Students: "I didn't know I could sound-out words like that".

Director: The subcontractor is meeting the terms of the contract in providing the required pre-service and in-service training to the staff; providing the necessary curriculum materials; preparing the Interim Performance Objective Tests, and working with the project office in all contractual areas.

The students appear to be progressing at a satisfactory rate. It has not been determined if this is a result of the teaching methods and curriculum or the Hawthorn effect.

There is concern that flow charts do not adequately cite individual student programming as do the Westinghouse modules of study.

Recommendations
Hall School: We would propose the continuation of the program with the implementation of the changes suggested earlier in this evaluation regarding staff.

In-service workshops are essential for all teachers and aides who will be involved in any extension of the program into the intermediate levels.

Revise the early primary curriculum and materials.

WESTINGHOUSE

Principal: In my estimation the program is going very well for later elementary children. The very young children, however, do not seem to be profiting by this approach.

There are many important aspects to the Westinghouse Program that are not found in the traditional classroom, Probably the most important of these is the individualized instruction which simultaneously meets the needs of all students.

Are we sacrificing effective group work--forcing children to be too independent?

Is there more to reading than skills?

Principal: Some of the staff still are dubious about the future of the program in the school. They still need to be assured whether we are going to stick with the program long enough to see it through. There have been many programs in the past that were "here today and gone tomorrow."

One basic fault is that there are no trained substitutes when the teachers or center staff are absent. Cost could be one of the reasons for this program. Having the teachers work in the center with children has changed their perspective from a "them" to "we and them."

Principal: The attendance of some of our regular "school skippers" has imroved. Attenance is considerably better for the half-day the students are in the center as opposed to the half-day spent in the regular classroom.

Teachers: They all love the reward system. Almost all of them seem to have a greater interest in school. Out of parents of 31 children, 28 felt the program was really helping their child.

Nice that all children on these levels attend the program.

Some of the people don't understand the program.

Most comments at conference time were favorable. Parents of the slower learners and underachievers were in my estimation the most pleased. They have been noticeable improvements in their children at home, also attitudes toward school and toward themselves.

Almost all parents who came for conferences expressed a strong desire that Straight will have the Learning Center again this fall.

Parents: One family was happy their daughter was in the program where she could go and go.

A parent didn't approve of bribery though daughter skips school less often, because she likes the center.

My child is a lot happier in the Learning Center. He enjoys his work.

My child doesn't want to be absent in the P.M., so she wouldn't miss going to the Learning Center.

I wish they'd had a program like this when I was in school.

Not for every child.

I don't like the pool table.

Students: A typical day? Work, work, work.

Math is the program that is helping me because it is a program that is fun.

I like everything in it.

This is the first time I have ever enjoyed school.

I hate the Learning Center because of the work.

C/MES - COMBINED MOTIVATIONAL EDUCATIONAL SYSTEMS

Principal: Many students are benefiting from the individualized instruction. Many are learning to work on their own and to accept their share of responsibility for their academic success, which is as it should be.

The most positive aspect of the program, as I see it, is the Achievement Motivation Session.

The claim that the C/MES program would motivate students and minimize truancy has not been substantiated at this time.

This first year's operation has had many problems ranging from late completion of the centers to equipment failures and late arrival of materials. The majority of the problems have been or are being alleviated.

However, a prevailing feeling or the part of the personnel in the program seems to be that the school serves the program, rather than the program serves the school. C/MES program is seen by many as a separate operation rather than a part of whole. Much more coordination of efforts between the project director, C/MES personnel and the rest of the building staff is needed. Also, strong effort in public relations is necessary.

Principal: I can see alternatives in the C/MES that would not be offered in our regular program. The prescriptive or individualized aspects of the program are tremendous.

This aspect alone offers "another chance" to a student, lacking a math or reading skill, on his own level. I also feel that a second year program is seriously needed at South Middle to eliminate the experimental or guinea pig stigma attached to the numerous programs tried here.

III. Comments - Company Personnel

ALPHA

Alpha is the only company that we know of which uses no hardware at all. Without proffering a subjective argument concerning the psychological effect of machines on children I would only point out that Alpha's non-reliance upon hardware offers two distinct advantages over all other companies: (1) Lowest possible capital demands for start-up and (2) Freedom from problem of machine maintenance and obsolescence.

Alpha is also a unique Contractor in its persistence in working toward true turnkey. All of our efforts with Grand Rapids personnel have aimed toward training these people to operate autonomously with absolutely no further reliance upon Alpha services in years following turnkey. We feel that Grand Rapids would seriously be compromised if there were an ongoing dependence upon Alpha for any services.

WESTINGHOUSE

The operation of the four Learning Centers is going very well. Based on an objective evaluation as done by our support services, the projections for actual achievement should be comfortably reached. We have developed a procedure which takes into account the number of lessons actually completed by the children in the Learning Center in order to develop an objective measurement.

While the Learning Center focuses directly on cognitive skills, we are sure that there is also a tremendous effect on the affective experience of the children involved. While this is certainly not a measureable characteristic it is none the less very important. With respect to this element, we are making efforts to adjust our positive reinforcement system away from direct and immediate self-gratification and direct it toward a more broad based sharing situation.

C/MES

The instructional component, (both reading and mathematics), although inaugurated late and under less than favorable conditions, has won wide acceptance and support among students. Diagnostic testing, individualized prescriptions, self-instructional programmed materials, and diversified teaching machines (hardware) are just some of the unique aspects of the instructional program that has caught the imagination and interest of the students.

The Achievement Motivation Program, to date, has been successful in helping the students to become more cognizant and knowledgeable about themselves and their peers. It has made them more aware of their experiences, former successes, strengths, values, conflicts, and the types of rewards they seek for reinforcement.

Combined Motivation Education Systems is pleased with the overall progress and impact that the program has shown at this point and are confident that even more extensive and definitive progress can be made in the ensuing months and year.

IV. Available Objective Information

ALPHA:

Contract provisions with the federal government prevent release of information, but results indicate growth in proceeding as expected. The following language is in our contract BIC-5217.

All such data, test scores and records directly connected to the performance of the program is the property of the Office of Economic Opportunity and shall be kept strictly confidential by the Contractor in accordiance with established laws and regulations governing the Contractor in such matters. The Office of Economic Opportunity shall have the right to make public group information where necessary in the furtherance of this experiment. No such information shall be made public by the Contractor or its subcontractors until approved by the Office of Economic Opportunity.

WESTINGHOUSE: Attached graphs

Franklin - After 90 days, the total achievement years for 110 students was 185 - 80 in math and 105 in reading. This would be an average of .73 in math and .95 in reading.

Lexington - After 90 days, the total achievement years for 110 students was 210 - 100 in math and 110 in reading. This would be an average of .9 in math and 1.0 in reading.

[illegible]93

It should be cautioned that these figures are based on Westinghouse projections. Their experience indicates a relationship between modules completed and achievement years. They do not claim, however, that the relationship is 100%.

C/MES:

A sample of Grand Rapids pupils in grades six, seven, eight and nine was tested February 10, 1971, with the Elementary Form B EDS reading and mathematics tests as an interim progress check for the CMES program. The total number of students tested was 129, 51 at the sixth grade level, 32 at the seventh grade level, 37 at the eight grade level, and 9 at the ninth grade level.

Reading test results: The average gain of the pupils in reading was approximately 5 months, or one half year. The largest gains were made by sixth and seventh grade pupils, who, on the average, made almost seven months gain. In terms of the performance of individual students, it is noted that over 2/3 of the students are making some gains, about 1/2 are making gains of more than 7 months, and almost 1/4 of the students have made gains of one year or more on the reading test. All of these reported gains have been made in approximately 4-1/2 months calendar time, though the actual instructional time was probably closer to 3-1/2 months due to various delays encountered at the beginning of the year.

Math test results: The gains on this interim testing in math follows somewhat the same pattern as those reported above for reading. The overall average gain for all 129 pupils is approximately 5 months. Again, the sixth and seventh grade students showed the greatest gains, averaging almost seven months.

It is difficult to project what the final gains will be since learning, as measured by tests, does not always occur in a straight line pattern. In addition, standardized testing approach does not always do full justice to the programs. In reading, for instance, the standardized tests used measure only the child's comprehensive skills, whereas the program in the early stages placed much heavier emphasis on word recognition and work attack skills.

Similarly, it is felt that the scores on the mathematics test are a low estimate of the actual mathematics ability of these children. The mathematics test requires a great deal of reading, and it is felt that many items on this test were missed, not because children did not know the mathematical principles or operations involved, but rather because they could not read the questions. As their reading abilities continue to improve, it is felt that their real mathematical abilities will be more accurately assessed.

Overall, the staff has been satisfied with the various programs and have reason to believe that techniques used will have positive implications for future programs in Grand Rapids.

Elmer H. Vruggink
Assistant Superintendent for Instruction

Appendix B

RECOMMENDATIONS OF THE CONTRACT PROGRAMS COMMITTEE

TO Mr. Philip Runkle, Superintendent of Schools

FROM Contract Programs Committee

SUBJECT RECOMMENDATIONS FOR 1971-72 SCHOOL YEAR

We recommend that the existing performance contracting centers be maintained for a second year on a company-management basis without the paid performance guarantee. This would be seen as a first step toward a complete turnkey of the operation to management by the local school system. The schools now having these centers should have the option of extending the center services to other age groups and achievement levels within their buildings. This recommendation is purely a subjective evaluation, not based on test results since none are available at this time.

Our decision was reached after conferring and consulting with teachers, principals, and the company representatives. The committee also made on-site visitations, sampling the attitudes of the students while on location.

We thought it best to recommend a continuation of all three programs for another year, rather than a selection of one program over the other two, since most people were quite impressed with their particular contract program. It is also the thinking of many committee members that it is difficult to adequately evaluate and realize the full effectiveness of a contract program in just one year.

The committee likes the philosophy of the contract programs. They are seen as a means of implementing something new and different, and as a catalyst for educational reform. Other factors which brought about this recommendation are the management system, cost effectiveness, accountability, and the behavioral objectives.

The following persons served on this committee:

Tom Jackson	George Portfleet
Dorothy Johnson	Fern Hoffmaster
Jackie Deeb	Mary Edmond
Frank Pulte	Joan Webster
Georgia Thompson	William Kirkwood, Chairman
Alice Huwer	Dick Bandy, ex officio
	Elmer Vruggink, ex officio

cc - Instructional Council

Appendix C

MATERIALS LIST FOR WLC LEARNING CENTERS

READING

1. Reading Readiness
   Westinghouse Learning Corporation
2. M. W. Sullivan Reading
   A - D, 1 - 20 plus cassettes
   Behavioral Research Laboratories
3. Listen and Think
   Lesson Books C, D, E, F with cassettes
   Educational Developmental Laboratories
   Division of McGraw-Hill
4. Tapes Unlimited
   Educational Unlimited Corporation
5. Reading Skill Text
   Series: Nicky, Pat the Pilot, Uncle Ben, Tom Trott, Uncle Funny Bunny with cassettes
   Charles E. Merrill Publishing Company
6. Phonics Skill Text Series
   Books A, B, C, D with cassettes
   Charles E. Merrill Publishing Company
7. Programmed Phonics
   Books 1 and 2
   Educators Publishing Service Incorporated

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8. Lessons for Self Instruction in Basic Skills
   For example: Reference Skills, Following Directions and Reading Interpretation
   California Text Bureau
   Division of McGraw-Hill Book Club

9. Reading for Understanding
   Science Research Associates
   Pilot Library II C

MATHEMATICS

1. Fitshugh Plus Program
   Allied Education Council

2. Seeing Thru Arithmetic
   Workbook Edition
   Scott Foresman and Company

3. Introduction to Modern Mathematics
   Behavioral Research Laboratories

4. Fractions III
   Webster Division,McGraw-Hill Book Company

5. Introduction to Multiplication
   Webster Division,McGraw-Hill Book Company

6. Programmed Mathematics
   Sullivan Associate Program
   McGraw-Hill

7. Introduction to Mathematics
   Encyclopedia Britannica Educational Corporation

8. Modern Mathematics
   Grades 1, 2, 3, and 4
   Continental Press Incorporated

9. M. W. Sullivan Mathematics
   Behavioral Research Laboratories

10. Drill Tapes
    Science Research Associates

11. Mini System
    Learning Systems Corporation

12. Modern Arithmetic
    Grades 1 - 5
    Milliken Publishing Company

13. Modern Mathematics
    Grades 1 - 5
    Hayes School Publishing Company Incorporated
14. Modern Algebra
    Encyclopedia Britannica Educational Corporation
15. Basic Mathematics and Problem Solving Approach
    Addison-Wesley Publishing Company
16. One to One Correspondence and Conceptualizing Numbers
    Westinghouse Learning Corporation

Appendix D

THE WLC-GRS CONTRACT

This Agreement, dated [15 July 1970] is between (1) Grand Rapids Public Schools (SCHOOL), 143 Bostwick N. E., Grand Rapids, Michigan 49502, and (2) Westinghouse Learning Corporation (WLC) a Delaware Corporation with headquarters at 100 Park Avenue, New York, New York 10017.

It contains all the terms and conditions under which WLC will provide, and the SCHOOL will purchase and use, the WLC Learning Center Program (PROGRAM) during the 1970-71 school year.

1. Background and Purpose

The PROGRAM has been developed by a team of psychologists, educators and systems managers during a period of several years of research and development effort. It is a program for the systematic and effective management of learning, valuable for remedial, regular, and enrichment purposes, completely individualized, and selfpaced. In operation, it has five major elements or phases:

- --Diagnosis. The student's strengths and needs are identified through a variety of tests designed to establish what he already knows and what he needs to learn.
- --Prescription. A course of study is planned for each student, specially designed to take advantage of his present achievements and to concentrate on the areas of his greatest need.

- --Learning Materials. Each unit in the course of studies refers the student to learning materials that have been selected as being most effective or efficient for him to use in learning the content of that unit.
- --Motivation. Each student participates in a system for planning and scheduling his study program; in this way, he learns to assume increasing responsibility for the objectives and the management of his own work, of his study program, and this in turn motivates him to accomplish it successfully and well.
- --Evaluation. Progress tests measure the student's achievement in reaching his learning goals. These measures of achievement are used for following and aiding the student's progress. They are also the basis on which the PROGRAM is judged and paid for.

Under this agreement WLC will establish and operate two Learning Centers in Grand Rapids, one in the Lexington Elementary School and one in the Franklin Elementary School. The objective of the PROGRAM to be operated in the Centers is to provide instruction in math and reading so that students performing below grade level in these subjects will progress to performance levels at or above grade level by the end of the school year.

2. Preparation

A. To prepare for the opening of the Centers and for the operation of the PROGRAM, WLC will do these things:

(1) Not later than [15 July 1970] WLC will provide the SCHOOL with a complete and detailed description of the space and furnishings required to operate the PROGRAM so that the SCHOOL will have sufficient time to make suitable space ready for the PROGRAM prior to the beginning of the school year.

(2) WLC will assign from its staff a manager who will have primary responsibility for the entire PROGRAM and a senior professional (who will be in charge of the second Center) to operate the PROGRAM. It is expected that each Center will have at least two additional staff members. One of these will be a teacher assigned to the Center from the SCHOOL staff and paid by the SCHOOL. WLC will also employ one or more aides in each Center. It is understood that the number of aides on duty in a Center at any time may be adjusted according to the number of students in attendance. WLC will

provide all training required for all teachers and aides who will be working in the PROGRAM.

(3) WLC will furnish all educational equipment and all educational and motivational materials required for use in the PROGRAM. (This equipment and these materials will remain the property of WLC.)

B. To prepare for the opening of the Centers and for the operation of the PROGRAM, the SCHOOL will do these things:

(1) The SCHOOL will make available in the Lexington Elementary School and the Franklin Elementary School suitable space for a Learning Center to accommodate up to 50 students. The space will be made ready not later than 20 Aug. 1970 to meet the requirements of the PROGRAM as described by WLC. The SCHOOL will also make available adequate office space in or near one of the Learning Centers for the use of the WLC staff manager and his secretary. The SCHOOL will provide all furniture (tables, chairs, desks, etc.) for the Centers and for the WLC manager's office.

(2) The SCHOOL will select two teachers from its staff - one to work in each Learning Center, and the SCHOOL agrees that WLC will have an opportunity to participate in and approve of their selection. The SCHOOL will arrange for the teachers selected to be available for training at least two weeks before the start of the school year.

3. Operations

A. WLC will operate the PROGRAM in the two Centers according to these terms and standards:

(1) The PROGRAM will be ready to enroll students not later than 4 September 1970. The Centers will be open and the PROGRAM will be available for students for no fewer than 6 hours a day, 5 days each week during the school year. Additional hours of operation at any time, and reduced or adjusted hours of operation during school holiday or vacation periods will be arranged by agreement between WLC and the SCHOOL.

(2) WLC will accept for enrollment in the PROGRAM all students assigned to it by the SCHOOL. Based on test information provided for each student by the SCHOOL, WLC will establish a learning objective and a program of study for each student.

Each student's schedule of attendance at the Center will be arranged as far as possible so that he may be expected to accomplish his objective on schedule.

(3) WLC may notify the SCHOOL within the first 20 hours of any student's attendance at the Learning Center that in its judgment the student cannot benefit from the PROGRAM, and in such case, the student will be withdrawn from the PROGRAM. WLC expects that not more than 5% of the students will fall in this category. Any student who is withdrawn from the PROGRAM may be re-enrolled after the factors responsible for his withdrawal have been remedied.

(4) The results of the PROGRAM will be measured by the achievement of students enrolled in it. The unit of achievement is one achievement-year, which is equal to a 1.0 gain in grade level as determined by standardized tests. WLC's performance goal, which is subject to the enrollment and attendance standards established in paragraph 3B(2) below is that student enrolled in the PROGRAM will accomplish a total of 960 achievement years.

(5) WLC will arrange, in cooperation with the SCHOOL for visitors, observers, orientation sessions, teachers workshops, and other activities relating to the operation of the PROGRAM provided only that such activities are judged not to interfere with its effective operation.

(6) WLC will arrange with the SCHOOL to provide it with appropriate information on the progress of each student enrolled in the PROGRAM.

B. To assist with and support the operation of the PROGRAM, the SCHOOL will do these things:

(1) The SCHOOL will select students for enrollment in the PROGRAM based on their needs for instruction in mathematics and reading. Each student enrolled will have an objective of achieving not less than 1.0 achievement-years in one or both subjects. Students enrolled for mathematics only will be at or above their grade level in reading.

(2 The SCHOOL will pre-test each student assigned to the PROGRAM in math and/or reading to establish his entry level. Only nationally standardized tests which report in grade level equivalents will be

used for pre-testing. The SCHOOL will administer post-tests to each student within five school days of being notified by WLC that the student has completed his work. The post-tests will be alternate forms of the pre-tests, and the results of the pre- and post-tests will be compared to determine a student's progress in a subject measured in achievement-years.

(3) The SCHOOL will be responsible for the enrollment and attendance of students in the PROGRAM at standard levels which will reasonably permit them to accomplish the PROGRAM's performance goal of 960 achievement-years. To this end, the SCHOOL will:

(a) Enroll students for a total of not less than 480 achievement-years in each Learning Center, or a minimum of 960 achievement-years in both Centers, and

(b) Arrange a "standard minimum attendance" in each Learning Center of at least 40 students (80% of the capacity of a Center) during each of the six hours of its operation on not less than 175 school days during the School year. This means that the "standard minimum attendance" in each Center will be 240 student-hours per day, and that the "standard minimum school year" will be 175 days.

4. Payment

A. The SCHOOL will pay WLC for its success in accomplishing the performance goals of the PROGRAM, and for the achievements of the students enrolled in it, according to the following terms and conditions:

(1) The price for an achievement-year is $149.50, and the SCHOOL will pay WLC that price for each achievement-year accomplished by students enrolled in the PROGRAM. If students accomplish the PROGRAM goal of 960 achievement-years, then the SCHOOL will pay WLC $143,700.

(2) If any student fails to accomplish at least a 1.0 achievement-year in a subject in 120 hours, the SCHOOL will pay nothing to WLC for that student's work in that subject, and the price of that 1.0 achievement-year will be subtracted from the total amount to be paid to WLC by the SCHOOL.

(3) If a student is enrolled with the objective of accomplishing more than a 1.0 achievement-year in a subject, his actual achievement, measured to the nearest 10th of an achievement-

year, will be credited to the PROGRAM, and the equivalent fraction of the price for an achievement-year will be paid to WLC. However, the SCHOOL will in no case pay for more achievement than was established as the student's objective when he enrolled. All achievement beyond that objective by any student will be at no cost to the SCHOOL.

(4) When the SCHOOL has enrolled students for a total of 960 achievement-years, it may elect to enroll no more students, in which case it will owe no further payment to WLC. If the SCHOOL elects to enroll students in the PROGRAM for more than a total of 960 achievement-years, WLC will accept them for enrollment provided only that there is reasonable time for them to accomplish the objective for which they are enrolled. The SCHOOL will pay WLC for all such additional enrollments to be completed through August 31, 1971 at the rate of $75 per achievement-year.

(5) If the attendance at either Learning Center on any of the 175 days in the "standard minimum year" is less than the "standard minimum attendance" of 240 student-hours per day, then the number of student-hours by which the attendance is less than 240 shall be considered excessive absence. The total number of hours of excessive absences during the year, divided by the actual average number of hours in which all students enrolled in the PROGRAM accomplish a 1.0 achievement-year, will be counted as achievement-years completed, and the price for that number of achievement-years will be payable to WLC. Any hours of attendance by a student that total less than 50 in a subject, and all hours of attendance by a student for which no pre-test/post-test measurements are available will be considered hours of excessive absence for the purposes of this paragraph. WLC will cooperate with the SCHOOL in scheduling additional hours of operation of the Learning Centers to permit students to make up excessive absences and in this way to minimize the effects of this paragraph.

(6) The SCHOOL will make monthly partial progress payments to WLC on terms to be arranged.

5. It is understood that either WLC or the SCHOOL will not be liable for loss, damage, detention, or delay resulting from causes beyond their reasonable control.

6. WLC will use its best efforts to perform this Agreement in a reasonably diligent manner. There are no warranties, express or implied, except as set forth in this Agreement; and the results of the Learning Center system are

guaranteed specifically as described herein and in no other way. In no event shall WLC be liable for any consequential or incidential damage arising out of this Agreement or the breach thereof.

7. This Agreement is not assignable by either party without the prior written consent of the other party.

8. All notices given in connection with this Agreement shall be given in writing. If to WLC, addressed to Westinghouse Learning Corporation, 100 Park Avenue, New York, New York 10017, attention: H. K. Skeele, Vice President, and if to SCHOOL, addressed to Superintendent, Grand Rapids Public Schools, 143 Bostwick, Northeast, Grand Rapids, Michigan 49502.

IN WITNESS WHEREOF the parties have hereunto set their hands on the date first above written.

GRAND RAPIDS PUBLIC SCHOOLS By:	WESTINGHOUSE LEARNING CORPORATION By:
______________________	______________________
______________________	______________________

Appendix E

GRADE SCORES AND GRADE EQUIVALENT SCORES

The CMES contract specifies that growth will be measured by "Grade Score Increase." The EDS grade score (a so-called "standardized" score) resembles, but is not generally the same as, the grade equivalent; in fact, the two are the same only for students who score exactly at their grade placement level (e.g., a sixth-grader in the second month of the school year who scores 6.2).

On the one hand, *grade equivalents* equate test results with expected median scores of appropriate grade placement groups; for example, a student who receives a grade equivalent of 4.5 has scored at the expected median of students (from the norming group) who are in the middle of their fourth year. On the other hand, the *Grade Score scale* is designed so that only the median score of the norming group corresponds to grade placement; the other scores are designed to conform to a normal distribution with a standard deviation of 1.0.

Pre-test grade scores are plotted against reading raw scores in Fig. 9. Since the Grade Score is a standardized scale based on grade placement, there is a separate curve for each grade. By drawing a curve through the norm medians of each grade (that is, the points that correspond with grade placement: 6.2, 7.2, 8.2, and 9.2, respectively), the conventional grade equivalent scale is implicitly obtained; this is curve (I) in the figure. Curve (I) has been extrapolated downward to cover the region in which most of the South Middle students scored.

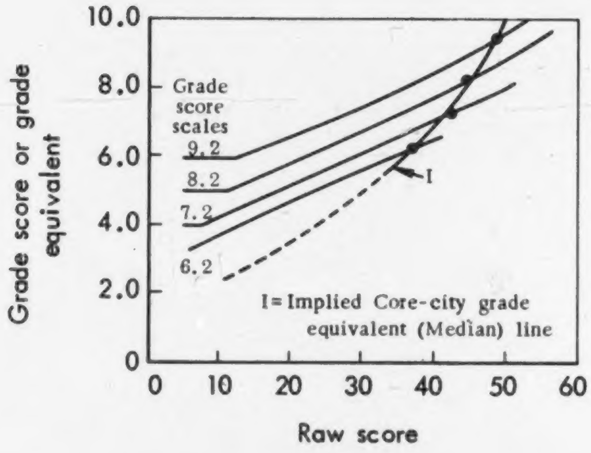

Fig. 9—Grade Scores vs. raw scores, and derivation of implied grade equivalent scale

In Fig. 10, this implicit grade equivalent scale is compared with the grade equivalent scale based on the medians of published norms for grades 4.5, 5.5, and 6.5 (curve II). The difference between curves (I) and (II) represents a difference between norming groups. STS publishes "national" norms for the grades for which the test was designed (grades 4, 5, and 6). The South Middle scores, however, are based on "core city" norms developed from a sample of students in Detroit. For comparison, median scores for the South Middle pre-test are indicated by curve (III).

All this suggests two issues concerning the use of normed scores for contract payment. First, the same test may measure growth differently when different norming groups are used. In Fig. 9, for example, the implied core-city grade-equivalent scale is steeper than the national scale within the 35 to 50 raw score range; payment per raw score increase for students who score gains within this range will be somewhat higher using core-city norms than would be the case with the national norms.

The other question is whether the use of Grade Scores rather than grade equivalents has an effect on contract payment. The answer seems to be yes; but for any particular student, the effect may be either positive or negative, depending on (1) the amount of raw score gain and (2) the relative curvatures of the Grade Score scale and the grade equivalent scale. Consider three students (A, B, and C) testing at the beginning of their seventh and eighth years. Suppose their performance on the first

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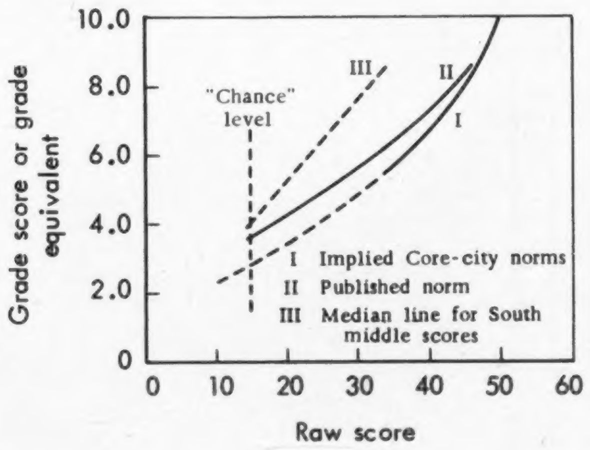
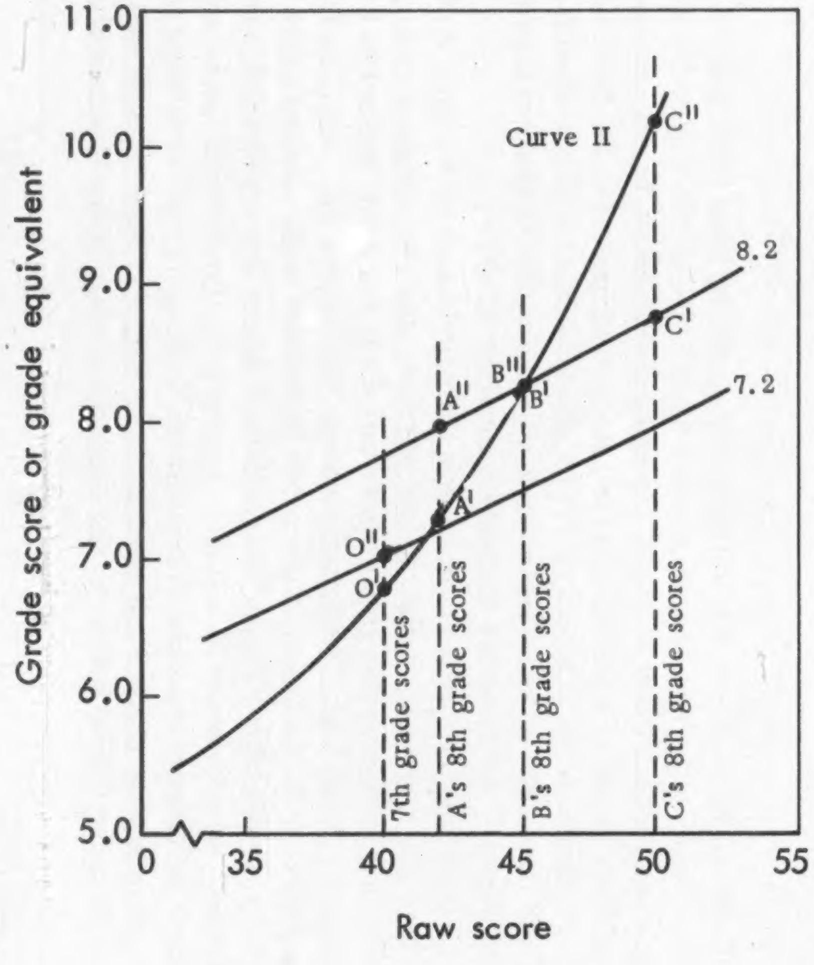


Fig. 10—Regular norms vs. implied "core-city" norms
(EDS elementary reading pre-test)

test is identical (raw score = 40) but their raw scores on the second test are 43, 45, and 50 (i.e., their respective raw score gains were 3, 5, and 10). Figure 11, which is an enlargement of a portion of Fig. 9, indicates that their beginning score was 7.0 in Grade Score (point O") and 6.8 in grade equivalent (point O'). Student A gained 1.0 in Grade Score (A"-O"), but only 0.7 in grade equivalent (A'-O'); Student B gained 1.2 in Grade Score (B"-O") and 1.4 in grade equivalent (B'-O'); Student C gained 1.8 in Grade Score (C"-O") and 3.4 in grade equivalent (C'-O').

It appears that the Grade Score scale is the more conservative since it tends to reduce both the contractor's risk of low payment and the district's risk of high payment; compared with the grade equivalent scale, low gains are not so low and high gains are not so high. The break between "low" gains and "high" gains, however, depends on the steepness of the grade equivalent scale relative to the Grade Score scales. In the case of South Middle School, where the pre-test raw scores for most students were between 15 and 30, it appears that grade increases between 1.0 and 1.5 will be roughly the same in both Grade Score and grade equivalent (assuming the extrapolated grade equivalent scale in Fig. 9 is correct), and that gains outside this range will be subject to the dampening effect of the Grade Score scale.



Student	Raw score gain	Same gain expressed in:	
		Grade equivalents	Grade score
Student A	3	.5	.9
Student B	5	1.4	1.2
Student C	10	3.4	1.8

Fig. 11—Gains of three hypothetical students

Appendix F

MATERIALS LIST FOR CMES CONTRACT LEARNING

READING MATERIALS LIST

Science Research Associates, 259 E. Erie St., Chicago Ill. 60611

1	Spelling Lab IIa	69.50
1	Pilot Lab IIa	63.95
1	Reading Lab IIa & IIc	132.00
1	RFU - Junior Edition	41.95
1	Dimensions in Reading, "American Album"	60.00
1	Dimensions in Reading, "We are Black"	60.00

California Test Bureau, 206 Bridge St., New Cumberland, Penn. 17070

Lessons in Self-Instruction on Basic Skills

5 @ 1.00	Reading Interpretations I, A-B	5.00
5 @ 1.00	Reading Interpretations I, C-D	5.00
5 @ 1.00	Reading Interpretations II, A-B	5.00
5 @ 1.00	Reading Interpretations II, C-D	5.00

Reader's Digest Services, Inc./Educ. Div., Pleasantville, N.Y. 10570

Reader's Digest Skill Builders (Rev. Editions)

5 @ 1.12	Grade 1, Part I & II	5.60
5 @ 1.12	Grade 2, Part I & II	5.60
5 @ 1.12	Grade 3, Part I & II	5.60
5 @ 1.12	Grade 4, Part I & II	5.60
5 @ 1.12	Grade 5, Part I & II	5.60
5 @ 1.12	Grade 6, Part I & II	5.60
5 @ 1.12	Grade 7, Part I & II	5.60
5 @ 1.12	Grade 8, Part I & II	5.60

Barnell - Loft, Rockville Center, New York, N. Y.

1 ea @ 1.00	Getting the Facts, Bks. A, B, C, D, E	5.00
1 ea @ 1.00	Using the Context, Bks. A, B, C, D, E	5.00
1 ea @ 1.00	Locating the Answer, Bks. A, B, C, D, E, F	6.00
1 ea @ 1.00	Working with Sounds, Bks. A, B, C, D	4.00
1 ea @ 1.00	Following Instructions, Bks. A,B,C,D,E,F	6.00
1 ea @ 1.00	Getting the Main Idea, Bk. A	1.00
1 ea @ 1.00	Drawing Conclusions, Bk. A	1.00
	1 student answer sheet and 1 answer key for each book @ 5¢ each	2.80

Houghton Mifflin, 1900 S. Batavia, Chicago, Ill.

1	Spelling Key Lab	39.00

Beckley Cardy, 1900 N. Narragansett Ave., Chicago, Ill.

5 @.56	Dolch - Puzzle Book I	2.80
5 @.56	Dolch - Puzzle Book II	2.80

Encyclopedia Britannica, 425 N. Michigan Ave., Chicago, Ill.

1	Literature Sampler (120 stories)	45.00

Lyons & Carnahan, 407 East 25th St., Chicago, Ill.

1 ea @ 45.00	Spelling Games A, B, C, D, E	225.00

Field Enterprises, 609 Mission St., San Francisco, California

	Checkered Flag Series	
1	A - V Kit A (Filmstrip, record, tape, book)	76.80
1	A - V Kit B (Filmstrip, record, tape, book)	76.80
1	Cyclo Teacher, all cycles	49.95
5 @ 12.75	Cyclo Machines	63.75

Merrill Publishing Co., 1300 Alum Creek Dr., Columbus, Ohio 43216

1	Mainstream Cassette Library	228.00

Visualcraft, 12842 S. Western Ave., Blue Island, Ill.

	Hoffman Encore Library	
1 set ea @ 19.95	100-3, 101-3, 102-3	59.85
1 set ea @ 19.95	100-4, 102-4, 102-4	59.85
1 set ea @ 19.95	100-5, 101-5, 102-5	59.85
1 set ea @ 19.95	100-6, 101-6, 102-6	59.85

Bowmar Records, Inc., 622 Rodier Drive, Glendale, California

	Bowmar Reading Incentive Program (Cassette)	
1	Drag racing (#281)	29.50
1	The mighty midgets	29.50
1	Karting	29.50
1	Slot Car Racing	29.50
1	Motorcycles	29.50
1	Teen fair	29.50
1	Horses	29.50
1	Surfing	29.50
1	Drag racing, funny cars	29.50
1	Dune buggies	29.50
1	Dune buggy racing	29.50
1	Custom cars	29.50

HIGH INTEREST--LOW READABILITY MATERIALS

Benefic Press, 10300 W. Roosevelt Rd., Westchester, Ill. 60153

	Dan Frontier Series Sight-Sound Sets	
1	Dan Frontier & the new house	22.95
1	Dan Frontier & the big cat	14.70
1	Dan Frontier goes hunting	14.70
1	Dan Frontier, trapper	15.45
1	Dan Frontier & the Indians	15.45
1	Dan Frontier & the wagon train	21.15
1	Dan Frontier scouts with the Army	21.15
1	Dan Frontier, sheriff	21.15
1	Dan Frontier goes exploring	21.15
1	Dan Frontier goes to Congress	21.90
	Sailor Jack Series	
1	Sailor Jack and Homer Pots	1.65
1	Sailor Jack and Eddy	1.65
1	Sailor Jack	1.65
1	Sailor Jack and Bluebell's dive	1.80
1	Sailor Jack and Bluebell	1.80
1	Sailor Jack and the jet plane	1.80
1	Sailor Jack and the ball game	1.80
1	Sailor Jack's new friend	1.80
1	Sailor Jack and the target ship	1.95
1	Sailor Jack goes north	1.95
1	Teacher's guide for the series	.75
	Sport Mystery Series	
1	Complete set of 4 titles	7.20
	Mystery Adventure Series	
1	Mystery of the talking statues	1.95
1	Mystery of the jeweled bell	1.95
1	Mystery of cave four	1.95
1	Mystery adventure reader I	3.93
1	Activity text reader I	.45
1	Teachers' edition - act. text	.45
1	Myster of the Indian burial ground	1.95
1	Mystery at Longcliff Inn	1.95
1	Mystery of the smuggled treasure	1.95
1	Mystery adventure reader II	3.93
1	Activity text reader II	.45
1	Teacher's edition - act. text	.45

World of Adventure Series

1	Complete set of 8 titles	14.40
1	Teacher's guide for series	.90
1	Student's activity book for series	.65

McCormick-Mathers Publishing Company, 300 Pike St., Cincinnati, Ohio 45202

The Challenge REader Series

1	Level 1	2.16
1	Level 2	2.31
1	Level 3	2.40
1	Level 4	2.61
1	Level 5	2.70
1	Level 6	2.70

HARDWARE READING MATERIALS

Educational Progress Corporation, 8538 East 41st St., Tulsa, Okla. 74145

Audio Reading Progress Laboratory

	Grades 1-3, Complete program, Cassette #1-1123	336.00
5 @ .75	Grade 1, Reading progress book, #1-115	3.75
5 @ .75	Grade 2, Reading progress book, #1-125	3.75
5 @ .75	Grade 3, Reading progress book, #1-135	3.75
1	Grades 4-6, Complete Program, Cassette #1-1423	252.00
5 @ .65	Grade 4, Reading progress book, #1-145	3.25
5 @ .65	Grade 5, Reading progress book, #1-155	3.25
5 @ .65	Grade 6, Reading progress book, #1-165	3.25

Borg-Warner Education Systems, 7450 N. Natchez, Chicago, Ill.

10	System 80 Machines @ 495.00	4,950.00
	Learning letter names & sounds	
1	Kits AB	225.00
1	Kits CD	225.00
	Reading words in context	
1	Kits ABCDEFGH	1,000.00
	Developing spelling skills	
1	Kits ABCDEFG	787.50

Visualcraft, Inc., 12842 So. Western Ave., Blue Island, Ill. 60406

25	Hoffman Reader Machines @ 389.00	
1 ea @ 99.00	Primary Achievement Units - 100-0, 101-0, 102-0, 103-0, 104-0, 105-0	595.00
1 ea @110.00	1st Level Achievement Units - 100-1, 101-1, 102-1, 103-1, 104-1, 105-1	660.00
1 ea @110.00	2nd Level Achievement Units - 100-2, 101-2, 102-2, 103-2, 104-2, 105-2 (when available)	660.00
1 ea @125.00	3rd Level Achievement Units - 100-3, 101-3, 102-3	375.00
1 ea @125.00	4th Level Achievement Units - 100-4, 101-4, 102-4	375.00
	Hoffman Reader	
1 ea @125.00	5th Level Achievement Units - 100-5, 101-5, 102-5	375.00
1 ea @125.00	6th Level Achievement Units - 100-6, 101-6, 102-6	375.00
1	Guide book for 100-0 - 105-0	2.95
1	Guide book for 100-3, 101-3, 102-3	2.95
1	Guide book for 100-4,5,6; 101-4,5,6	1.50
1	Guide book for 102-4,5,6	2.95
1 each	Primary Achievement Work Sheets	
	100-00-WS through 100-09-WS	3.50
	101-00-WS through 101-09-WS	3.50
	102-00-WS through 102-09-WS	3.50
	103-00-WS through 103-09-WS	3.50
	104-00-WS through 104-09-WS	3.50
	105-00-WS through 105-09-WS	3.50
1 each	1st Level Achievement Work Sheets	
	100-1-WS THROUGH 100-09-WS	3.50
	101-1-WS through 101-09-WS	3.50

	102-1-WS through 102-09-WS	3.50
	103-1-WS through 103-09-WS	3.50
	104-1-WS through 104-09-WS	3.50
	105-1-WS through 105-09-WS	3.50
1 each	2nd Level Achievement Work Sheets	
	100-2-WS through 100-09-WS	3.50
	101-2-WS through 101-09-WS	3.50
	102-2-WS through 102-09-WS	3.50
	103-2-WS through 103-09-WS	3.50
	104-2-WS through 104-09-WS	3.50
	105-2-WS through 105-09-WS	3.50
5 each	3rd Level Achievement Work Sheets	
	100-3-AB	1.75
	101-3-AB	1.75
	102-3-AB	1.75
5 each	4th Level Achievement Work Sheets	
	100-4-AB	1.75
	101-4-AB	1.75
	102-4-AB	1.75
5 each	5th Level Achievement Work Sheets	
	100-5-AB	1.75
	101-5-AB	1.75
	102-5-AB	1.75
5 each	6th Level Achievement Work Sheets	
	100-6-AB	1.75
	101-6-AB	1.75
	102-6-AB	1.75

Fred Edelston Company, 2910 West Peterson Are., Chicago, Ill. 60645

50 @ 22.50	Aiwa Tape Cassette Recorder Model TP-739	1,125.00
50 @ 2.50	AC - 607 Convertors	125.00

Midwest Visual Equipment Company, 6500 N. Hamlin, Chicago, Ill. 60645

2 @ 63.95	ATC 300 A Record Players	127.90

Selected Sound & Products, Inc., 2733 Central St., Evanston, Ill. 60621

50 @ 7.95	Electric-fone #978 (mini-plug)	397.50
25 @ 7.95	Electric-fone #976 (standard plug)	198.75

MATHEMATICS MATERIALS LIST

Charles E. Merrill Publisher, 1300 Alum Creek Drive, Columbus, Ohio 43216

2 @ 275.00	Mathematics Skill Tapes #7309	$ 550.00
12 @ 25.00	Mathematics Replacement Package #7310	300.00

Midwest Visual Equipment Co., 6500 N. Hamlin, Chicago, Ill. 60645

1	Intermediate Imperial Cassette Math. Program #1M456C	339.00
4 ea @ 1.95	Pupil Response Books Lessons 1 to 20	156.00

Educational Progress Corporation, 8538 E. 41st St., Tulsa, Okla. 74145

	Continuous Progress Laboratory	
1	Series 300 #2-032	106.50
1	Series 400 #2-042	106.50
1	Series 500 #2-052	106.50
1	Series 600 #2-062	106.50
200 @ .55	Student Progress Books	110.00

Science Research Associates, 259 E. Erie St., Chicago, Ill. 60611

1	Arithmetic Fact Kit #3-520	51.85
50 @ .45	Student Record Books #3-539	22.50
5 @ 21.75	Pacer #3-416	108.75
1	Cross-Number Puzzle Box #3-3780	26.95
50 @ .48	Student Record Books #3-3781	24.00
1	Cross Number Story Problems #3-4180	26.95
50 @ .48	Student Record Books #3-4181	24.00

California Test Bureau, 206 Bridge St., New Cumberland, Penn. 17070

5 @ 1.00	Self-Instruction Addition A-B	5.00
5 @ 1.00	Self-Instruction Addition C	5.00
5 @ 1.00	Self-Instruction Addition D	5.00

Electronic Futures, Inc.
917 S. York Rd.
Elmhurst, Ill. 60126

Elementary School Mathematics

C-1001	Level A	$ 63.80
C-1000B	Level B	127.20
	set of 16 mini systems @$1.99	31.84
C-1000C	Level C	
	sets each of 16 mini systems @$1.99	63.68
C-1000D	Level D	127.20
	sets each of 16 mini systems @$1.99	95.52
C-1000E	Level E	119.25
	sets each of 15 mini systems @$1.99	89.55
C-1000F	Level F	111.30
	sets each of 14 mini systems @$1.99	83.58
C-1000G	Level G	119.25
	sets each of 15 mini systems @$1.99	89.55
		$1,248.92
92101-01	Model 101AC Audio Flashcard Reader @$250.00	$3.750.00
22501-00	Self Instruction Basic Mathmetic Level I	158.00
22504-00	Self Instruction Basic Mathmetic Level II	275.00
50325-00	Student Workbook Level II	63.00

22506-00	Self Instruction Student Workbook Level III	164.00
50456-00	Student Workbooks Level III	63.00
22507-00	Self Instruction Student Workbook Level IV	166.00
50457-00	Student Workbooks Level IV	63.00
22508-00	Self Instruction Student Workbooks Level V	263.00
		1,185.00

5 @ 1.oo	Self-Instruction	Subtraction A-B	5.00
5 @ 1.00	Self-Instruction	Subtraction C.	5.00
5 @ 1.00	Self-Instruction	Subtraction D	5.00
5 @ 1.00	Self-Instruction	Multiplication A-B	5.00
5 @ 1.00	Self-Instruction	Multiplication C	5.00
5 @ 1.00	Self-Instruction	Multiplication D	5.00
5 @ 1.00	Self-Instruction	Division A-B	5.00
5 @ 1.00	Self-Instruction	Division C	5.00
5 @ 1.00	Self-Instruction	Division D	5.00

Charles E. Merrill, 1300 Alum Creek Dr., Columbus, Ohio 43216

5 @ 10.50	Graded Difficulty Cards	#2150	52.50

Houghton-Mifflin Co., 1900 S. Batavia Ave., Geneva, Ill. 60134

1	Concept and Skill Cards	#1-14704	41.25

Visualcraft, Inc. 12842 S. Western Ave., Blue Island, Ill. 60406

1	Math Tabletamer	19.95
1	Math Fractionfinder	19.95

Harcourt-Brace & World Inc., 7555 Caldwell Ave., Chicago, Ill. 60648

100 @ .99	Learning to Compute Book 1	99.00
25 @ .99	Learning to Compute Book 2	24.75

Webster-McGraw-Hill, Manchester, Missouri 63011

2 @ 4.20	Tangrams (cards) #17445	8.40
2 @ 2.40	Tangrams (pieces) #17446	4.80
1	Tangrams (t.g)	1.50

La Pine Scientific, 6001 S. Knox Ave., Chicago, Ill. 60629

2 @ 5.00	Place Value Board	10.00

Selective Education Equipment, 3 Bridge St., Newton, Mass.

1	Calculator #001	10 for	13.00

Creative Publications, P.O. Box 321, Palo Alto, California 94302

36 pairs	Dice #MLM-8A	4.00
4 @ .75 ✓	Playing cards #MLM-6	3.00
1	Aftermatn 1A - 4B #MEP-18	45.00
2 @ 1.50 ✓	Dominoes #MLM-18	3.00
2 @ 4.00 ✓	Multifactor #MLM-2	8.00
1	Design Posters #MCP-7	3.50
1	Puzzle Posters #MCP-13	5:00

Miles Kimball Co., 41 W. Eighth Ave., Oshkosh, Wis. 54901

2 @ 2.29	Yahtzee #4180	4.58

Borg-Warner Education Systems, 7450 N. Natchez, Chicago, Ill. 60604

1	Learning Number Facts, Kits A,B,C,D	575.00

Appendix G

THE CMES-GRS CONTRACT AND EXCERPTS FROM THE GRS-MODEL CITIES CONTRACT

This Agreement made this _____ day of September, 1970, between the Board of Education of Grand Rapids, Michigan, hereinafter referred to as the District, and Combined Motivation Education Systems, Inc., hereinafter referred to as the Company.

WHEREAS, the District has been duly empowered to enter into this contract with the Company to provide reading and math improvement programs at the South Middle School, the school year commencing on the 26th day of August, 1970 and terminating on the 11th day of June, 1971; and

WHEREAS, the District is presently controlling and operating the South Middle School and is able to, and shall, furnish sufficient space within such school including all utilities, maintenance and janitorial services for the conduct of classes and other instructional services to be conducted by the

Company as provided herein;

NOW, THEREFORE, in consideration of the several agreements herein contained, the District and the Company hereby agree as follows:

I. TEACHERS

A. The District shall provide a Program Director, four (4) qualified teachers and ten para-professionals who shall be assigned to the Combined Motivation Education Program.

1. The District shall have the responsibility for payment of all normal fringe benefits as well as the issue of salary checks. Said teachers and para-professionals are not now, nor will they be, loaned or borrowed employees but, in all respects, shall be employees of the District, and nothing contained herein shall be construed so as to make said teachers or para-professionals "loaned" or "borrowed" employees of the Company. Costs incurred by the District will be deducted from the payment to the Company as indicated in V.A.

2. If, at any time during the term of this contract, any or all of the teachers and/or para-professionals supplied by the District shall request, or be requested by the Company or the District, to discontinue their services under this Agreement, the District shall immediately supply the Company with a replacement for such teacher(s) or para-professional(s).

3. In the event the District shall desire the removal of a teacher, Program Manager, or para-professional from the Company's program, it shall first consult with the Company.

B. The Company shall provide all necessary instructional material and assistance for and in the conduct of its Combined Motivation Education Program, hereinafter referred to as CMEP, for the improvement of reading and mathematical levels of students placed in said program at the South Middle School.

II. STUDENT SELECTION. The District shall select a sufficient number of students to provide the equivalent of 1200 student units* who shall be placed in the CMEP to be conducted by the Company.

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* One student unit equals one student enrolled in one subject for one class period each day for one school year.

A. Students shall be initially selected for this program by the District on the basis of a mutually agreed upon Standardized Achievement Test.

   1. Those students selected on this basis shall be the ones performing at the lowest level on that test, so that the total number of students shall comprise all those students at the lowest level.

B. The Company, within the first 30 calendar days after assignment to the CMEP, shall have the right on the basis of emotional or mental reasons unrelated to the standardized test results to refuse up to, and including, ten per cent (10%) of the students selected and, in the event this right is exercised, the District shall select replacements from the remaining students, excluding those so refused within five (5) school days of the date of the refusal.

   1. The District shall have the right to reject the Company's refusal to accept such students up to one-half (1/2) of the above ten per cent (10%). In this event, the Company shall be paid for such students on the basis of the mean gain of CMEP students exclusive of those students refused by the Company and rejected by the District.

   2. No payment will be made for rejected students.

C. In special cases, a student may be dropped or added to the CMEP upon mutual agreement of the Principal and the Program Director.

III. FACILITIES. The District shall provide the equipment and facilities as set out as start-up costs in Appendixes A and B to the Proposal dated July, 1970, at South Middle School during the term of this Agreement as its sole cost and expense, which equipment and facilities shall remain the property of the District.

IV. PROGRAM. The Company shall conduct its reading and math remediation program known as the CMEP at the school site during the term of the school year commencing August 26, 1970 and terminating June 11, 1971.

A. The Company shall train four (4) teachers, as supplied by the District under the provisions of Article I, who shall be responsible for the conduct of teaching the program. Training shall be conducted at the school site beginning August 17, 1970 and ending August 28, 1970.

B. The Company shall use its own methods and procedures of instruction in the conduct of its CMEP.

C. The Company shall evaluate and test all students in its classes at least once every thirty (30) school day period and shall maintain daily progress records on each individual student at company expense, all of which shall be made available to the District upon request at the office of the Program Director.

D. The Company shall provide theDistrict with cost effectiveness information on the instructional program.

E. The Company shall assume all costs and responsibilities for the training of the CMEP management program.

F. The Company shall establish with South Middle School a schedule and program of transition of the system to the District.

G. The Company shall bear all direct operational costs of the program, including salaries, consumable materials, public relations, record keeping, reporting, management and staff development.

H. The Company shall conduct necessary programs to communicate the CMEP to the community, parents and school people.

V. SCHEDULE OF FEES

A. The District shall pay the Company the sum of $6.00 per student for each one-tenth (1/10) of Grade Level Increase in each student's mathematical ability and $6.00 per student for each one-tenth (1/10) of Grade Level Increase for each student's reading ability, figured to the nearest tenth achieved by each of the students in the CMEP, but, in no event shall said sum exceed $164,000.00 less salaries paid teachers, para-professionals and Program Director, and fringe benefits paid to Program Director only.

1. The base (or starting point) for the grade level of each of the students for mathematics and reading shall be determined by his individual performance on the mutually agreed upon standardized test, administered at the commencement of the school year.

    a. For the purposes of determining the true base level of those students who fail to meet "chance level" (i.e. frequency expectancy = number of distra ctions, multiplied by the number of items on the test), those students will be retested at the next lower level test and that shall be the student's base grade level.

2. Grade Level Increase (Grade Score Increase) in mathematics and reading, shall be determined at the end of instruction at which time the mutually agreed upon standardized test shall be administered, except for those students who initially failed to meet "chance level," and they shall be tested on the basis of the next lower level test.

3. If, after the grading of the test at the end of the instruction period, any amounts shall be payable to the Company as provided in A above, the total amount so determined shall be paid by the District to the Company within ten (10) days of the receipt of such computations from the Company and certification by a mutually agreed upon third party evaluation specialist, less any amounts paid by the District under Article I, but, in no event shall such total amount exceed the sum of $164,000.00.

4. In addition to all other payments, the District agrees to pay according to the following schedule and pursuant to the following conditions:

   a. If the District shall fail to supply students to the Company as set out in Article II, the District shall pay an amount equal to the payment based upon the mean Grade Level Increase per day per student to be computed at the end of the 180 day period as set out in Article V, Section A, Paragraph 3 to the Company for each such student for every school day which the District failed to supply such student, not including five school days allotted herein to the District for the supplying of such student.

   b. If any student fails to attend the classes of CMEP for a total in excess of ten (10) days during the course of the 180 day school year, the District shall pay the Company an amount equal to one-half (1/2) of the mean rate payment based upon the mean Grade Level Increase per day per student to be computed at the end of the 180 day period, as set out in Article V, Section A, Paragraph 3, for each such student per each day in excess of the ten (10) days which he failed to attend the classes.

c. In no event shall the payments under this paragraph, when added to the payments under Section A of this Article, exceed $164,000.00.

B. Administration of pre- and post-tests shall be the responsibility of the District; only the District, the Company or a mutually agreed third party shall test or supervise the giving of such tests.

C. It is agreed that neither the District nor the Company will be liable for loss, damage, detention or delay, resulting from causes beyong their reasonable control.

D. In the event this Agreement cannot be performed because of strikes, lockouts, acts of God or any other cause not the fault of the Company, the District shall pay to the Company the sums of sixty-seven cents($.67) per student unit per day for each day that the Company did perform under this Agreement.

IN WITNESS. WHEREOF, the parties have set their hands the day and year above written.

GRAND RAPIDS PUBLIC SCHOOLS	COMBINED MOTIVATION EDUCATION SYSTEMS, INC.
By: ____________________	By: ____________________
____________________	____________________

EXCERPTS FROM GRS-MODEL CITIES CONTRACT

Section 2. Scope of Services

A. Objectives. This Agreement is for the purpose of providing a rapid learning center at South Middle School with a curricula designed to self motivate low achieving students to improve reading and math skills on an average of two grade levels. During the period of this Agreement the project will have the objectives to:

(1) Raise the level of 500 to 600 low achievement students an average of two grade levels in reading.

(2) Raise the level of 500 to 600 low achievement students an average of two grade levels in mathematics.

(3) Self-motivate low achievement students to accomplish these increases.

(4) Provide for effective citizen decision making power in the development and evaluation of education projects effecting Model Neighborhood residents.

B. Activities. This Agreement will provide for the following activities and services:

(1) The Contractor will subcontract with Combined Motivational Educational Systems, Inc., hereinafter called COMES, to establish a self motivation rapid learning center at South Middle School.

(2) COMES will instruct up to 600 low achievement students in reading and up to 600 low achievement students in mathematics by means of self motivation curricula.

(3) The Contractor will recruit, select and assign students to the rapid learning center.

(4) Student selection, participation and removal will be governed as follows:

   (a) Students will be selected in inverse order from achievement tests.

   (b) The participation of students must be with the consent of their parents.

   (c) Up to five per cent of the students so selected by the Contractor may be rejected by COMES on the basis of emotional or mental reasons unrelated to achievement test results provided such rejections are made within 30 calendar days after the first day of the program.

   (d) There must be at least 400 students enrolled in reading courses and at least 400 students enrolled in mathematics courses no later than 60 days after the first day of the program. Such enrollment shall be maintained all times thereafter as a minimum performance condition of this Agreement.

   (e) Students moving during the year within the City will remain enrolled, with the parent's permission, as full time students and will be transported by the Board of Education for the remainder of the school year along scheduled Board of Education bus lines.

(5) A parent educational demonstration meeting will be scheduled and

held at the beginning of the program.

(6) The Contractor will conduct at least two evaluation meetings with parents, one being at the end of the second semester.

(7) The Contractor will employ an independent evaluator for this project who will provide a tentative report by March, 1971 and a final report prior to August 1, 1971.

C. Special Conditions. This Agreement and its activities shall be conducted by the Contractor under the following special conditions:

(1) A Community Education Council will be created and funded by the Model Neighborhood Citizens Committee, Inc., hereinafter called MNCC. The Council will be composed of nine members as follows:

(a) One person appointed by the Mayor of Grand Rapids from a list submitted by the MNCC.

(b) Two Board of Education staff persons appointed by the Board of Education who are involved in school program planning and inner-city school administration.

(c) Two Model Neighborhood high school students elected by their own peers.

(d) Four Model Neighborhood adult residents appointed by the MNCC.

(2) Proposed curricula changes, tentative reports, proposed contract amendments and similar policy questions concerning this project shall be referred to the Community Education Council for review and recommendation prior to adoption by the Contractor and the City. The Community Education Council may appeal administrative decisions on this project directly to the Board of Education, to

the City or both.

(3) The MNCC will sponsor a training program for the Community Education Council members.

(4) The Community Education Council will elect their officers and prepare by-laws. MNCC will establish tenure of office.

(5) The powers of the Community Education Council will include:

  (a) Program planning involvement in all compensatory education programs effecting Model Neighborhood students. The Community Education Council shall be involved from the outset of program development.

  (b) Required Model Cities sign-off approval of all applicable educational funding applications affecting MN students shall require the review and approval of the Community Education Council.

(6) Nothing in this Agreement shall be construed to violate the rights and responsibilities given to the Board of Education by State Statute.

(7) First priority shall be given to Model Neighborhood residents for all positions of paraprofessional teacher aides used in this project.

D. Budget. Compensation for the activities of this Agreement shall be as follows:

(1) The City shall reimburse the Contractor up to Sixty Thousand Dollars for expenses incurred as follows:

(a) Twenty Thousand Dollars for start-up expenses incurred for equipment, furnishings and supplies peculiar to this project upon City approval of the Work Program required by Section E of this Agreement.

(b) Twenty Thousand Dollars for the salaries of teachers and paraprofessional teacher aides employed in the project.

(c) Ten Thousand Dollars upon verification that an average Grade Level Increase of one full year or more has been achieved by students in the project.

(d) Up to $10,000 for reimbursement of one-third of the payments made by the contractor to COMES. Payments are funds paid to COMES in excess of project salary costs. Payments will be made under this section only if at least an average grade level increase of one full year has been achieved.

E. Work Program. Within fifteen (15) days of the signing of this Agreement, the Contractor will submit a Work Program for the approval of CDA. The Work Program will include:

(1) A Schedule of Events which lists all key project activities included in this Agreement and which shows the time period after execution of this Agreement during which each key project element was accomplished or is expected to begin and end.

(2) An Implementation Sequence Diagram depicting the key project elements from the Schedule of Events. The diagram will show the flow of events and relationships of key project elements and other contract activities beginning with the signing of this Agreement or any earlier program implementation activities. The

Diagram will include all necessary steps required to implement all activities of this project. CDA will provide technical assistance in preparation of the Implementation Sequence Diagram.

(3) A Narrative Description of each key project element, which shall include: The purpose of the activity; a definition of what the activity is to consist of; the methods to be used in carrying out the activity; and comments on any coordinating activities necessary to the proper and timely implementation of the activities.

F. Monitoring Reports. The Contractor will collect information required by CDA for the proper monitoring and evaluation of this project.

(1) Information will be submitted to CDA by the Contractor in monthly Monitoring Reports. Monitoring Reports will be provided by CDA within 10 working days of contract. All information listed on the Monitoring Reports will be required as part of this Agreement. CDA may, from time to time, add to or reduce the information required. Contractor may, with CDA approval, add, change or reduce items of information as appropriate to final methods of project implementation.

(2) The Contractor will submit a copy of the approved Schedule of Events with the Monitoring Reports monthly. The Contractor will indicate thereon actual time of work on each key element during the reporting period in order to provide a visual comparison between original forecasting and actual implementation.

Appendix H

THE OEO RFP AND THE GRS-ALPHA CONTRACT

PERFORMANCE INCENTIVE REMEDIAL EDUCATION EXPERIMENT

The Office of Economic Opportunity is planning to carry out a major field experiment in remedial education techniques. Qualified companies in the field of applied educational technology are invited to submit proposals in response to the questions and issues stated below.

The purpose of the experiment is to determine the effectiveness of a range of instructional techniques for remediating disadvantaged school children in the subject areas of reading and math. Organizations in the field of applied educational technology have developed various approaches and instructional techniques. The Office of Economic Opportunity intends to compare different approaches and techniques in teaching reading and mathematics to disadvantaged school children in order to determine the effectiveness of each of these approaches. Offerors should propose a technique or approach which they feel is best suited for this experiment. The Government may select up to six techniques to use as comparisons in the experiment.

It should be noted carefully that this Request for Proposals will not result in any contracts between the Office of Economic Opportunity and those companies submitting proposals in response to this request.
However, the Office of Economic Opportunity plans to make grants to selected schools (approximately 24) throughout the country. These schools will in turn subcontract with the selected companies in order to carry out remedial

educational programs for children who are not performing up to grade level standards.

In most cases, the contracts between the schools and the selected organizations will be of the performance incentive type; that is, the companies will compare the effectiveness of some of the educational techniques as carried out under a performance incentive contracting arrangement with both the use of the techniques alone (i.e., without the performance incentive), and with regular school programs.

The experiment will be conducted along the following lines: The approximately six organizations selected, having a demonstrated capability and experience in educational training and technology, will each carry out an instructional program in several locations. (It is currently contemplated that each organization will carry out programs in three different schools, either within a single city or in three different cities) and two sets of grades -- first through third and seventh through ninth.

A limited number of the experimental techniques (probably two) will be carried out under both a performance incentive contract arrangement and under a standard reimbursement contract. This will provide some indication of the extent to which any improvements achieved are due to the education technique employed, the motivating power of incentives, or the two in combination. Ideally, it would be desirable to test all the different treatment approaches in the experiment under these two conditions, but because of the extremely short lead time for mounting the experiment, this will not be possible.

The experimental instruction will be carried out for a full academic year. It is estimated that the amount of instructional activity should be on the order of an hour each day per subject.

An independent evaluation will be made of the total experiment. It will consist of pre- and post- measures on standardized tests given to both the students in the experimental classes and control groups. Companies chosen to carry out the educational part of the experiment will not be permitted to compete for the evaluation contract.

The Office of Economic Opportunity, in cooperation with the approximately six selected organizations, will select the school systems which meet the requirements of the experiment. These schools should have a large disadvantaged and academically retarded population and they must be both interested in participating in the experiment and able to make the necessary organizational, curriculum, and schedule changes by September 1970. As mentioned above, the Office of Economic Opportunity intends to award grants to these selected school systems, who will in turn enter into a contract with one of the six selected companies.

In the selection of the six organizations to comprise the experiment, consideration will be given only to those organizations which have a demonstrated capability in educational techniques and technology appropriate for remediating disadvantaged children in reading and math. The proposals must also contain plans for the teaching program to be conducted upon a performance incentive contracting basis.

The purpose of this experiment is to evaluate the relative effectiveness of existing techniques, not to underwrite the development of new techniques. Moreover, to be considered, organizations must demonstrate their capability to carry out an instructional program of the magnitude described above by September 1970.

The approximately six contractors who will participate in this experiment will be selected upon the basis of their responses to the following questions:

a) A statement of their general capability and a description of all corporate and staff experiences in the area of applied educational technology and training.

b) A full description of their proposed approach, i.e. the particular materials, procedures, types of hardware (if any) and software used, etc. and a discussion of previous findings using this approach.

c) A description of how they propose to supply instructional staff, i.e. whether their own instructors will be supplied, whether they will train existing teachers or other local people, etc.

d) A description of the incentives, if any, which are part of their approach and whom they are mainly aimed at (e.g., pupils, teachers, parents, the school system).

e) A description of their approach to school/contractor cooperation, including teacher's unions. This section should also include a description of anticipated problems of program implementation and proposed solutions to these problems.

In addition, the proposal should contain a description of the basis upon which they propose to receive payment. This should describe the relationship between grade level increases to be achieved, length of time within which achievement of increase is expected, and a schedule of payments graduated in accordance with the actual length of time required to achieve the grade level increase. Due to the multitude of unknown variables at this stage (location of schools, local salaries, number of students, etc.) only general approximations of the above are expected: The proposal should discuss the various cost factors and assumptions which were considered in arriving at this estimate.

The proposal should state the extent to which the techniques and materials to be used in this experiment are patented, copyrighted, or otherwise subject to proprietory interests. To the extent any of the materials and techniques are subject to the above interests, the proposal should set forth the terms upon which the Contractor is prepared to license such techniques and materials.

The proposal should be addressed and mailed to the Office of Economic Opportunity, Procurement Division, 1200 19th Street, N.W. Washington, D.C. 20506. If hand-carried, your proposal should be delivered to the Procurement Division, Room 1522, 1111 18th Street, N. W., Washington, D. C.

Proposals must set forth full, accurate, and complete information as required by this Request for Proposals. The penalty for making false statements in proposals is prescribed in 18 U.S.C. 1001.

The closing date for receipt of proposals is 5:30 P.M., E.D.S.T., 11 May 1970. Proposals should be mailed in sufficient time to reach this office prior to 5:30 P.M., E.D.S.T.

We realize that this does not provide adequate time to prepare detailed proposals covering all the complex issues relating to this experiment. However, because of the large number of tasks which must be accomplished in the coming months and the necessity of launching the experiment by September 1970, it is necessary to proceed very quickly. The main purpose of this RFP is to identify those organizations which have the best technical and organizational capabilities necessary for inclusion in the experiment.

If there are substantive questions which organizations need to have answered before submitting their proposals they should contact Mr. Jeffry Schiller in the Evaluation Division of the Office of Planning, Research, and Evaluation at the Office of Economic Opportunity. His telephone number is (202) 382-2809.

SUBCONTRACT BETWEEN GRAND RAPIDS SCHOOL DISTRICT AND ALPHA LEARNING SYSTEMS COMPANY

EFFECTIVE DATE July 27, 1970

1.00 GENERAL CONDITIONS

1.01 Definitions

Contractor -- school district

Subcontractor -- education company selected by Office of Economic Opportunity

Contracting Officer -- Office of Economic Opportunity Contracting Officer

Project Manager -- Office of Economic Opportunity representative

Project Director -- contractor's representative

Project Administrator -- subcontractor's representative

Management Support Group -- Education Turnkey Systems, Inc.

Testing and Analysis Contractor -- to be selected by Office of Economic Opportunity

1.02 Statement of Work -- General

Contractor has entered into an agreement with the Office of Economic Opportunity to participate in a nationwide test of the effect of performance incentives on remedial education among disadvantaged children. Contractor recognizes its duty to improve the reading and mathematics skills of elementary and junior high school students who are now below standard. Subcontractor has developed an innovative instructional approach in teaching those needed skills.

Statement of Work -- Specific

Subcontractor shall conduct an instructional program (hereafter referred to as an Accelerated Learning Achievement Center) for 100 students in each of grades 1, 2, 3, 7, 8 and 9. The project shall continue for the full 1970-71 academic year, consisting of approximately 180 class hours of instruction in each of reading and math. Management support will be provided to Contractor, and the entire project will be evaluated. Subcontractor guarantees a minimum level of results in terms of student achievement; to be held accountable for those results; and to accept payment conditional upon final results.

1.03 Period of Contractual Obligation

The period of contractual performance of this agreement extends from the effective date of this agreement to June 30, 1971.

1.04 Relationships of Office of Economic Opportunity to the Subcontract.

The terms and conditions of contract number BIC-5217 between the Office of Economic Opportunity and Contractor are incorporated herein by reference and made a part hereof. This subcontract is subject to prior written approval of the Contracting Officer for the Office of Economic Opportunity. Contractor is responsible to the Office of Economic Opportunity for the performance of its subcontractor. Any disputes of fact arising under this subcontract, as raised by either party hereto, shall be submitted to the Contracting Officer, whose decision shall be binding.

1.05 Termination

Subcontractor agrees that continuing performance under the subcontract is subject to funding of the prime contract between Contractor and the Office of Economic Opportunity. In the event that for any reason funding ceases during the period of contractual obligation of this subcontract or if the prime contract is terminated for the Government's convenience, contractor shall be legally authorized by virtue of the provisions contained herein to terminate the subcontract immediately and request the project manager within five days to administer post-tests in reading skills and arithmetic and all such testing shall be completed within ten days thereafter.

Under no conditions or circumstances shall liability to the Contractor as a result of termination exceed the total subcontract

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price based upon the terms stipulated in par. 3.02 - grade level increase and 3.03 interim performance objective tests for the purpose of establishing the final subcontract price within limits of par. 3.04 - final price, less any payments theretofore earned by subcontractor pursuant to this subcontract.

In the event that the subcontract is terminated within 60 days of the first day of classroom instruction in the ALAC, the contractor shall be liable in accordance with the termination clause contained in its contract with the OEO for actual, reasonable, necessary and a locable costs incurred for performance of terminated work, including reimbursable costs of settlement for accounting, legal, clerical and other expenses necessary for preparation of settlement claims together with reasonable transportation and other costs in connection with the protection of property allocable to this subcontract. The subcontractor recovery shall be restricted to actual costs only.

Any determination of costs under the preceding paragraph shall be governed by the principles for consideration of costs set forth in Subpart 1.15.2 of the FPR (42 C.F.R. § 1-15.2) as in effect on the date of this subcontract.

In the event that a teacher or other strike in the schools in which the work is to be conducted prohibits the subcontractor's performance for a period of 30 days or more or if the subcontractor can not carry out the program for 30 days or more due to an Act of God, the contractor has the option either to 1) terminate the subcontract; or 2) grant an extension of the period of performance for a reasonable period for the accomplishment of the work; or 3) enter into re-negotiations with the subcontractor covering such matters as the formula for the incentive, and the period of performance.

When termination is based upon the reasons contained in the immediately preceding paragraph, the contractor shall attempt to post-test all students enrolled in the program. Where 60% of the students presently enrolled are post-tested, the subcontractor shall be paid on a pro rata basis pursuant to the provisions of paras. 2.02, 303 and 2.04. Where 60% of the students are not post-tested and the contractor and TAC are satisfied that the contractor exerted its most reasonable and best efforts to post-test the students, the subcontractor shall be paid on the basis of actual costs as if the termination occurred within the first 60 days of the commencement of classroom instruction.

Except as hereinabove provided, termination by the contractor shall limit the liability of the contractor to a unit price(s) pro rata basis based upon post-tests administered after the date of termination.

Unless otherwise provided under this subcontract, the subcontractor from the effective date of termination and for a period of three years after final settlement under this subcontract shall preserve and make available to the Government at all reasonable times at the office of the subcontractor but without direct charge to the Government, all his books, records, documents, and other evidence bearing on costs and expenses under this subcontract and relating to terminated work.

1.06 Successors and Assigns

All terms, conditions, and provisions hereof shall inure to and shall bind the parties hereto and each of their successors and assigns. Subcontractor shall not assign or transfer its interest, responsibility, or claims payable under this subcontract without prior written consent of the Contracting Officer.

2.00 SPECIFIC PROVISIONS

2.01 Duties of Contractor

Contractor agrees to hire a full-time professional as Project

Director who shall be the Superintendent's representative. Contractor agrees to provide adequate secretarial and clerical staff support, and to provide 10 classrooms for the Accelerated Learning Achievement Center. Project Director may authorize the subcontractor to obtain modifications to classroom facilities in total amount not to exceed $3200. In such cases, subcontractor shall first provide specifications for such modifications to the Project Director.

Contractor agrees to maintain an information exchange involving teachers, counselors, consultants, and parents. Contractor shall host visitors to the program on a schedule and in accordance with procedures approved by the Project Manager which do not interfere with the operations of the Accelerated Learning Achievement Center.

Contractor agrees to be responsible for ensuring that any student enrolled in the Accelerated Learning Achievement Center and attending school on a given day will attend the Accelerated Learning Achievement Center program, and shall arrange scheduling of classes, where appropriate, to facilitate student attendance.

Contractor agrees to make replacement students available whenever they are needed.

2.02 Duties of Subcontractor

Subcontractor agrees to organize and operate the accelerated Learning Achievement Center, providing instruction in basic reading and mathematics to students selected for participation.

Subcontractor certifies that the instructional system, materials, and equipment to be used in the project are the same as, or do substantially duplicate, those listed or otherwise identified in its response to OEO RFP PRE/E 70-107. Subcontractor further certifies that the instructional system, materials, and equipment being used, the use of which is being charged through the contractor to the Federal Government, were not developed or financed under previous Government contracts or grants such that they would be available to the Government in substantially similar form without charge. In the event that any such instructional system, materials, and equipment have been developed or financed under a previous Government contract or grant, the Subcontractor shall disclose within 20 days of the effective date of this subcontract, through the Contractor to the Office of Economic Opportunity, the Federal document which financed or developed such items, the extent of modification of such items both as to substantive content, testing validation, and breakdown of costs related thereto.

If, during the contract period, subcontractor wishes to change the instructional system, materials, or equipment used, it must notify Project Director and Project Manager of any substantial changes. Upon their concurrence, such change may be instituted, provided, however, if there is a reduction in cost, the parties will promptly negotiate a reduction in incentive price. The negotiated price shall be subject to the approval of the Contracting Officer.

In no event shall Contractor be liable for a change to more costly instructional system, materials, and equipment.

Subcontractor shall maintain records to reflect all actual start-up and operating costs in accordance with reporting forms and procedures, and at specified intervals required by Project Director, as established by the Management Support Group and approved by the Project Manager. Subcontractor agrees to supply promptly all data and other information required by the Project Director for the reporting system and for other uses.

Subcontractor agrees to provide a full-time professional employee on-site during working hours to provide services specified herein. Subcontractor further agrees maintain the level of effort of personnel and equipment required on-site over the full contract period to assure the maximum possible educational development for each student, but in any event no less than the level established by the Project Manager. Any major revision in the level of effort from the level estimated in subcontractor's proposal to the Office of Economic Opportunity must be approved by the Project Manager. If such revision is agreed to and substantially reduces Subcontractor's cost, Contractor and Subcontractor shall promptly negotiate a reduction in the incentive price. The negotiated price is subject to the approval of the Contracting Officer. In no event shall Contractor be liable for a higher cost.

Subcontractor agrees to maintain and service all equipment used in the project and to immediately replace equipment not repaired within 7 work days. If Subcontractor has proprietary rights over any instructional equipment, it further agrees to expend a reasonable amount of effort in training local personnel employed by Contractor in the maintenance and servicing of said equipment, upon request of Contractor.

Subcontractor agrees to train or orient management staff selected by Contractor and Management Support Group in the use of management techniques and approaches involved in Subcontractor's instructional system.

Subcontractor agrees to submit in writing to the Management Support Group and the Project Director, for their use in monitoring the overall project, a management plan with specific task assignments, activities, and planning charts not later than fifteen (15) days after the beginning of instruction. Subcontractor agrees to make available all internal planning and operational documents related directly to the instructional operation of the project.

Subcontractor shall have the Accelerated Learning Achievement Center in operation of the first full day of classroom instruction in the school district for grades 7, 8, 9 September 3, 1970 and for grades 1, 2, 3 September 4, 1970.

2.03 Use of Local Personnel

Subcontractor agrees to the requirements made by Contractor on the employment, training, certification, payment, and use of local personnel, as detailed in Appendix B, attached to this subcontract and made a part thereof.

2 . . Selection and Attendance of Students

All students who are potential participants in this program will have grade level deficiencies in reading and mathematics as determined by any one of three nationally normed, standardized commercially available achievement tests to be selected and administered by the

Office of Economic Opportunity or its designee; and will be from poverty area schools. Participants will come from grades 1, 2, 3, 7, 8 and 9 or their equivalent, for a total of 600 students, approximately 100 students per grade. Students will be selected for participation by random assignment by the Office of Economic Opportunity's designee from a target population pool of 150 students per grade. Contractor shall obtain written parental consent for students to be placed in the project. Students to be considered for control purposes will also be randomly assigned from that pool. No student shall be placed in the pool who would not be eligible and accepted for instruction in Contractor's regular classes.

During the first twenty (20) days in which a student participates in the Accelerated Learning Achievement Center, that student shall receive diagnostic testing by the Subcontractor to determine individual treatment. If, during that twenty (20) day period, Subcontractor disagrees that the student is qualified to participate because of emotional or mental reasons unrelated to standardized test results, he may request the student's removal in writing to the Project Manager. Upon the Project Manager's determination, an individual test will be administered by a qualified psychologist in consultation with the Testing and Analysis Contractor. In all cases, the Project Manager's decision on student participation shall be final and binding. Those students remaining after the twenty (20) day period shall remain in the program for the full number of class days normally scheduled for the school for all students. Any student who does not remain shall be the subject of inquiry and certification by the Testing and Analysis Contractor, and the reasons for students leaving the program shall be a subject in the evaluation report.

For the purpose of this subcontract, and more particularly paragraph 3.05 below, the following are the only bona fide reasons for a student leaving the program: absence for a continuous period of 15 days or for intermittent periods totalling 20 days in any three-month periods; and/or if parents request removal. In all these cases, Subcontractor shall give written statement from the parent, and the validity of the stated cause shall be certified by the Testing and Analysis Contractor.

Subcontractor shall daily furnish the names of any absent students, and Contractor shall use the same efforts and procedures as are used for all other students in the school district to ensure attendance at make-up and at future sessions. If the student transfers to another school in the district, Contractor shall track that student and facilitate his continued attendance in the Accelerated Learning Achievement Center. If regular school schedules are changed, Contractor agrees to ensure that time will be available for the selected students to continue to participate.

A student's attendance in the program shall be subject to normal school disciplinary procedures, up to suspension or expulsion from classes of 10 continuous or 15 intermittent days in a three-month period. At that point he may be treated as a dropout as outlined earlier in 2.04, re: bona fide reasons for a student leaving the program. Subcontractor may request contractor to initiate disciplinary action in accordance with normal school procedures based on student behavior in the ALAC.

Student participants who reach legal age to voluntarily discontinue their regular school attendance may do so, and may be permitted to continue in the program. Where Contractor has a General Equivalency Diploma program, the student may receive credit toward that diploma by his particpation in the project. The performance of such a student shall continue to be the subject of payment to Subcontractor but will not be used for final evaluation purposes.

Wherever possible, students who leave the program for any reason shall be post-tested for evaluation purposes by the testing and Analysis Contractor, as more specifically set forth in Clause 2.05. Contractor and Subcontractor shall use their best efforts to obtain such post-tests, particularly by notifying the Testing and Analysis Contractor upon learning that a student may be leaving the program.

When a vacancy occurs, it shall be certified by the Project Director. A replacement who can be scheduled into the Subcontracted program will be randomly selected from the target population by the Testing and Analysis Contractor within 3 days and placed in the program by the Contractor within 3 days. No replacements shall be made later than thirty (30) days before the end of the project. If the pool needs to be increased, students will be selected for inclusion on the same basis as students were originally selected. Final decision on replacements rests with the Project Manager.

Any transportation required to facilitate attendance of students in the Accelerated Learning Achievement Center shall be provided by Contractor, with expenses borne by it.

2.05 Testing

Entry and exit level status of each student participant will be determined by scores on any one of three nationally normed, standardized, commercially available achievement tests administered at the beginning and end of the 1970-71 academic year by the Office of Economic Opportunity or its designee. Office of Economic Opportunity in conjunction with the Project Director shall supervise these and the interim performance test. Such tests will be the basis for determining student achievement gains and subcontractor reimbursement. No information whatsoever shall in any way be disclosed to subcontractor as to what test or what forms of the test have been or will be used, except for that information which the project manager makes available to all other subcontractors. Project Manager shall have the right to test with any instrument that he deems appropriate for his own management requirements a sample of participants at any time after participants have received a minimum of twenty (20) hours of instruction in either reading or mathematics. Such testing shall not interfere with the subcontractor's instructional time. A sample number of participants shall be tested four (4) months after completion of instruction to determine rates of retention. Said tests shall not be administered earlier than two weeks after the first day of classes for school year 1971-72. Results of the retention test will be used for Office of Economic Opportunity evaluation purposes.

Subcontractor has the right to administer any tests that are part of his program for the diagnosis and placement of students or for Subcontractor's internal program assessment.

Tests and testing procedures for project evaluation and for Subcontractor payment purposes or both shall be under the authority of OEO or its designee.

Testing of student progress under the authority of OEO or its designee shall be as follows:

2.05. 1. The procedures for determining the pre-test, post-test, net gain scores per individual student shall be as follows:

a. OEO with the advice of the Management Support Contractor and the testing and Analysis Contractor shall jointly select three (3) commercially available, nationally normed, standardized reading and arithmetic tests and/or subtests.

b. Not more than ten (10) days after the contractor's first day of classes, OEO or designee shall administer the three tests, all forms, one test per student, to the appropriate grade levels. Subcontractor shall not be told, nor shall he attempt to determine in any manner whatsoever what test or what form of what test any student received. Subcontractor shall be informed by the Project Manager ten (10) days prior to the pre-test of the level of the test to be used for each grade level involved in the project, and all other information referred to in paragraph 2.05 above.

c. No earlier than ten (10) days prior to the contractor's last full day of classes, June 4, 1971 (unless otherwise approved by the Project Manager) OEO or its designee shall administer the post-test to each student. The post-test shall be a different form of the same test that was administered to the student as the pre-test. Prior to the post-testing, the subcontractor shall not be told, nor shall he attempt to determine in any manner whatsoever what test or what test or what form of what test any student shall receive. No later than thirty (30) days prior to the scheduled post-test, the sub-contractor shall notify in writing the testing and analysis contractor, stipulating and justifying the test level it wishes to be utilized for each student or groups of students participating in the project.

d. TAC will make recommendations to the Project Manager regarding the appropriate test levels to be used. The Project Manager will determine the test levels to be used.

e. OEO or its designee shall have the authority over the pre and post testing conditions to ensure that such conditions are as comparable as is possible, including makeup examinations. Exceptions to comparability of pre and post test conditions shall be investigated by the Testing and Analysis Contractor and reported to the OEO with recommendations. The OEO shall then make a determination which shall be binding upon both parties of this subcontract.

2.05.2 The procedures for assessing student achievement on subcontractor's interim performance objectives shall be as follows:

a. The assessment of student performance on the subcontractor's interim performance objectives shall take place within 7 days of the following dates:

Interim Assessment #1 October 16, 1970
Interim Assessment #2 November 25, 1970
Interim Assessment #3 January 15, 1971
Interim Assessment #4 February 26, 1971
Interim Assessment #5 April 16, 1971

b. No later than August 25, 1970, Subcontractor shall submit to the Test and Analysis Contractor the instruments it proposes to use for each Interim Assessment, #1 through #5. Subcontractor shall indicate the objectives to be assesssd and the relationship of the objectives to the Subcontractor's curriculum. Furthermore, the Subcontractor shall submit an item pool, to consist of no less than three (3) times the number of items the Contractor deems necessary for the assessment of each objective. The proposed instrument must be designed by the Subcontractor so that one hundred (100) percent of the students will correctly answer and/or perform seventy-five (75) percent of the items.

c. The Test and Analysis Contractor shall certify to the OEO that the objectives to be assessed are a fair measure of the Subcontractor's curriculum and that the items are a fair measure of the objectives.

d. If the Test and Analysis Contractor is not satisfied with the Subcontractor's 100-75 performance levels, the objectives, or the number and relevance of the items, it shall stipulate in writing to the OEO and the Subcontractor the reasons for its dissatisfaction, with recommendations for improvement.

e. OEO, with the assistance of the Project Director, shall then negotiate such conditions and their remedy with the Subcontractor. The subsequent OEO findings and actions will be final and binding upon the Subcontractor and shall not be subject to disputes.

f. If the Test and Analysis Contractor is satisfied with the objectives and the items, it shall randomly sample items from the item pools to build the final instrument.

g. The OEO or its designated representative shall administer the interim assessment tests. The Subcontractor shall see the instruments used no sooner than the day they are to be administered.

2.05.3 Only the Office of Economic Opportunity shall authorize the release of any test results to the public. In all cases, they shall be group scores and not individual scores. Neither Contractor, Subcontractor, Management Support Group, Testing and Analysis Contractor, or any of their employees or consultants shall release test results or cause them to be made public in any way without written permission of the Project Manager, Office of Economic Opportunity.

2.06 Penalty for Teaching Test Items

The Testing and Analysis Contractor will perform a pre-audit of the Subcontractor's instructional program prior to but not later than October 1, 1970, to determine that standardized test items are not included in the curriculum. The Project Manager, through the T.A.C., reserves the right to conduct continuing audits of the curriculum to insure that standardized post-test items are not included.

The test question item pool procedure and the use of a variety of standardized tests is intended to prevent affirmative influencing of student performance on standardized, norm referenced tests by foreknowledge of questions to be asked, commonly called "teaching to tests". Suspicion that such an event has been attempted or accomplished shall be stated in writing to the Office of Economic Opportunity and communicated immediately by telephone to the Management Support Group. Representatives of the Office of Economic Opportunity on its designees shall immediately visit the project site and determine the validity of the charge, the number of participants affected, and whether any damage was caused. The Office of Economic Opportunity shall have the authority to terminate the project for cause at that point and to require the Subcontractor to return all funds paid him by the Contractor.

2.07 Liability

Contractor shall owe the same duty of care and responsibility to student participants in Subcontractor's instructional components, whether operated during or after regular school hours, as it does to those same students when in regular classroom situations. Any additional insurance premiums necessitated shall be borne by Contractor. Contractor shall assume liability for any damage, personal or property, occurring out of the transporting of students to or from Subcontractor operated facilities.

Subcontractor shall assume liability for its employees and for any accident occurring on premeises under its control. Subcontractor is responsible for equipment and other property maintained on Contractor's premises and shall insure against loss or damage thereto. Where Subcontractor property or material is kept on premises under Contractor control, Subcontractor may require a reasonable improvement of security measures.

Subcontractor agrees to purchase within five days of the effective date of this subcontract a performance bond in the maximum amount of the subcontract, reflecting an insurable interest in both the Contractor and the Office of Economic Opportunity. The performance bond shall immediately be submitted to the Contracting Officer for his approval.

Subcontractor shall in no way be considered an agent of the

Contractor or the Federal Government. The SubContractor shall indemnify and hold harmless the Contractor and the Federal Government from any or all acts or omissions of the Subcontractor, its agents or employees, arising in any manner under this subcontract.

2.08 Student Rights

Recent decisions in a variety of jurisdictions including the Supreme Court have established student constitutional rights as against school districts, their agents, and administrative and instructional personnel. Subcontractor shall assume that the same constitutional prohibitions apply to it. Subcontractor and Contractor actions in regard to all student participants, particularly in the event of expulsion from the program, must meet constitutional requirements, especially those of procedural and substantive due process.

2.09 Copyrights and Patents

Paragraphs 40 and 41 of Clause XIII -- General Provisions of the prime contract between the Office of Economic Opportunity and Contractor are included herein by reference.

3.00 Payment Provisions

3.01 Fixed Price-Incentive Clause

The performance incentive measurement for establishing interim and final subcontract price shall be based on the results of pre- and post-test gains as measured by standardized tests established in each subject and interim performance tests after completion of each period of approximately six weeks or 30 hours of instruction in each subject.

3.02. GRADE LEVEL INCREASE MEASURED BY NATIONAL STANDARDIZED TESTS

"Seventy five percent of the total unit price of this subcontract is based upon grade level achievement increase above the minimum guarantee of 0.75 grade gain in grades 1-3 and 1.00 grade gain in grades 7-9 in accordance with the schedule below:

Grade Gains	Price per gain level above minimum guarantee Price (Grades 1-3)	Price (Grades 7-9)
.75 - .99	$56.25	0
1.00 -1.24	75.00	$75.00
1.25 -1.49	93.75	93.75
1.50-1.75	112.50	112.50
1.75-1.99	120.00	120.00
2.00-2.49	127.50	127.50
2.50-2.99	135.00	135.00
3.00-3.99	142.50	142.50
4.00 and over	150.00	150.00

3.03 INTERIM PERFORMANCE OBJECTIVE MEASUREMENT TEST

In addition, the subcontractor shall receive one-fourth of the total unit price or $37.50 per student in each subject based on each student's satisfactory completion of the predetermined proficiency of 75% level in the five interim performance tests. The unit price for each student for satisfactory completion in each subject of each interim performance objective test is $7.50. The student interim performance objective standard level tests approved by the evaluation contractor shall be final and binding on both parties.

3.04 Final Price

The average fixed maximum unit price based on gains in achievement level and interim performance objective tests shall not exceed $300.00 per student for both subjects based on a maximum of 360 instructional hours for the school year. The total maximum incentive price for this subcontract for both subjects shall not exceed $180,000.00.

3.05 Student Drop Out Unit Price

(a) If any student drops out or otherwise leaves the program through no fault of the Subcontractor and for reasons beyond its control as more fully detailed in Paragraph 2.04 and obtains less than 30 hours of instruction per subject, the basis for establishing unit prices shall be the following:

On a percentage of attendance time of the student dropout to total instructional time based on the mean average of the total incentive price payments for students remaining in the whole program divided by the number of these students, for each grade level.

(b) Every student dropout from the ALAC program who was in the program for at least 30 hours of instruction per subject and remains in attendance in the school district shall be post-tested and the basis for establishing unit prices shall be the following:

1. A rate of $6.50 for each 0.1 grade level gain increase provided the student meets the minimum guarantee requirement on a pro rata basis, and
2. $7.50 for each interim performance objective test, that the student attains a 75% level of satisfactory completion or better.
3. In addition the subcontractor shall receive for the ensuing IPO test that the student dropout is not in attendance, a fraction of one IPO payment based on the time the dropout is in attendance after taking his last IPO test to a total of 30 hours of instruction in each subject. One IPO test payment X Dropout hours in attendance after last IPO test. 30 HOURS

3.06 Student Replacement Unit Price

The basis for establishing unit prices for the replacement students shall be as follows:

(1) $6.50 for each 0.1 grade level increase in each subject based on pre-test/post-test gains, provided the student meets the minimum guarantee requirement under this subcontract on a pro rata basis, and

(2) $7.50 for each interim performance objective test taken, that the student attains a 75% level of satisfactory completion or better.

(3) In addition, if the replacement does not take the first IPO test, the subcontractor shall receive a fraction of one IPO payment based on the time from the date the replacement enters the ALAC program to the date of the first IPO test in attendance divided by a total of 30 hours of instruction time in each subject. e.g. One IPO payment X Replacement Student hours in attendance to the First IPO test.

3.07 Limitation of Payment

Notwithstanding any other provision of this subcontract, the subcontractor shall receive interim provisional payments equivalent to80% of the estimated total maximum price. This 80% interim provisional payment shall be separated into seven installment payments as follows:

1st payment -- a lump sum of $21,000 for submission by the subcontractor of the interim performance objective tests to the testing and analysis contractor.

2nd payment-- a lump sum of $21,000 for attendance of a minimum of 50% of target student population at each grade level as certified by the T.A.C.

3rd through
7th payment -- $35 for student, after evidence of administration of each interim performance objective test in both subjects to each student in attendance as certified by the prime contractor's school project director.

Within 45 days after the final post-measure test results are established and reported by the evaluation contractor to the subcontractor, the subcontractor shall submit an adjusted final voucher with detailed supporting information for each unit price for each subject for each student enrolled in the program and total additional amounts that may be due in both subjects. Any amount of the total provisional payments in excess of the final determined total price based upon student performance on interim and final tests shall be reimbursed by the subcontractor through the prime contractor to the Government.

3.07 "Students Not Tested: If a student is unable to take any regularly scheduled test that is a basis for subcontractor reimbursement or regularly scheduled make-up tests, and if said student has been in attendance at the Accelerated Learning Achievement Center no less than eighty-five (85) percent of the time for the instructional period being evaluated, it shall be assumed that said student's score is the same as the average test of gain score, whichever is appropriate, for all students in that Accelerated Learning Achievement Center or the same grade level as said students".

4.00 SUBCONTRACT APPROVAL

This subcontract shall not be effective until approved in writing by the Contracting Officer. The date of such approval shall constitute the effective date of this subcontract.

5.00 SPECIAL PROVISION

It is understood by the parties hereto that the subcontractor shall be bound by the following clauses found in the prime contract number BIC-5217, Clause XIII -- General provisions: 5, 7, 13, 21, 22, 23, 24, 36, 37, 39, 40, 41, and 44. Wherever in the prime contract the word "Government" appears, the word "Contractor" should be substituted therefor, and wherever the word "Contractor" appears the word "Subcontractor" should be substituted therefore.

5.00 Add "13" to General Provisions clauses subcontractor is bound by. Add new sentence "Subcontractor's response to

OEO. RFP PRE/E 70-107 is incorporated in this subcontract by reference."

signed:________________________ ____________________________

C.R. Muth Acting Superintendent of Schools Grand Rapids Public Schools	Alpha Learning Systems, Inc.

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